



May 16, 2008

## **First Quarter 2008 Total Fund Review Arizona State Retirement System**

Terry Dennison, Los Angeles

# Economic Environment

# Economic Highlights First Quarter 2008

## Positive

- The fed slashed rates a total of 200 basis points, bringing the federal funds rate to 2.25%
- Rates fell across the yield curve as investors fled to the safety of U.S. Treasuries
- Record low of USD versus euro and a 12-year low versus yen, which stimulates exports
- National Association of Home Builders/Wells Fargo Housing Market Index showed signs of stabilizing

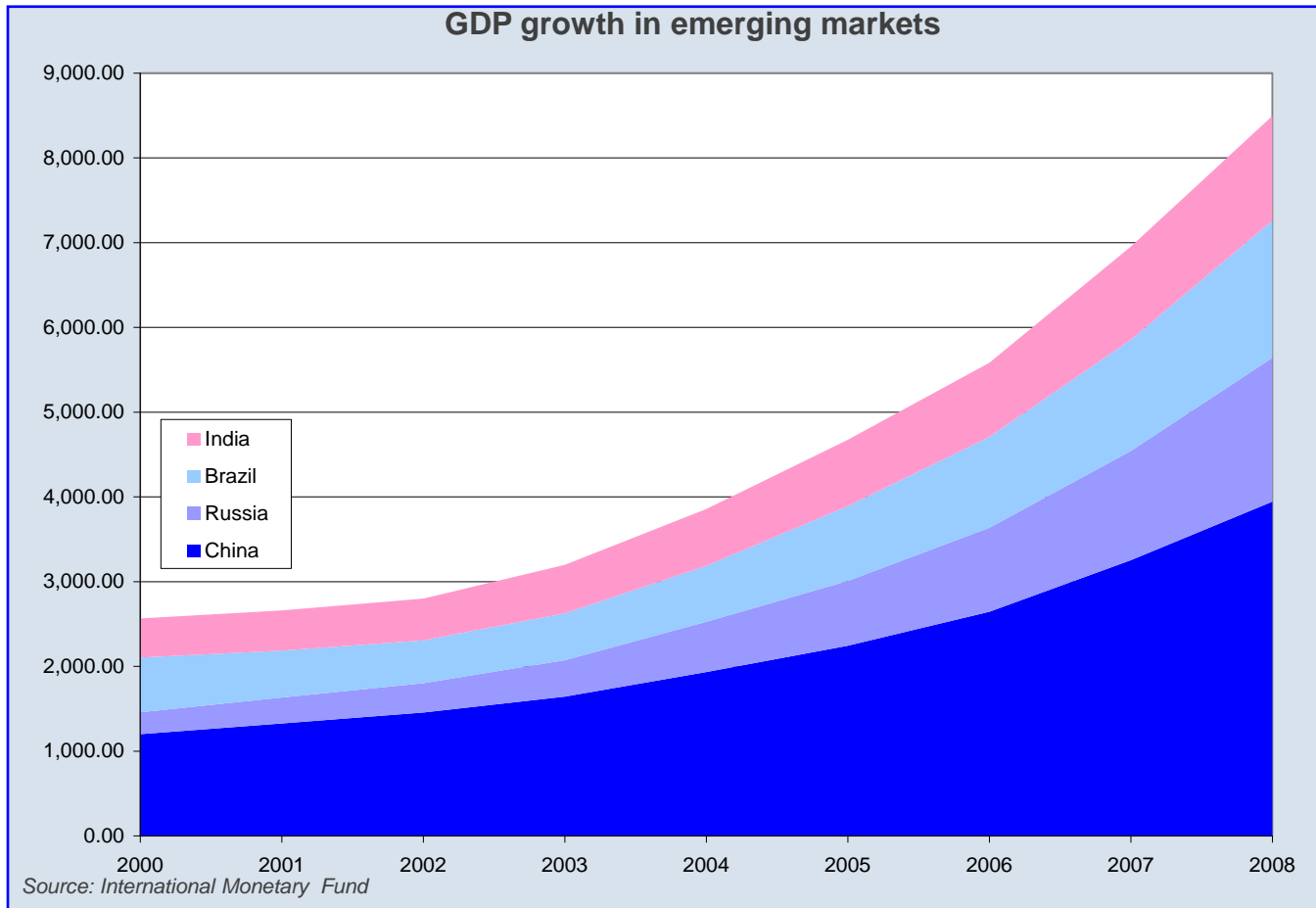
## Negative

- Economy edged closer to recession; advanced estimate of GDP growth was 0.6%
- Consumer confidence sank to a 5-year low
- Unemployment rate at 5.1%, nearly a 3-year high
- Consumer prices increased 4.0% on a year-over-year basis; core CPI was up 2.4% from a year ago
- Oil prices surged, as high as \$110/barrel
- New-home sales fell to their lowest level in 13 years

## Focus: The Price of Globalization

### Inflation Is Encompassing the Globe

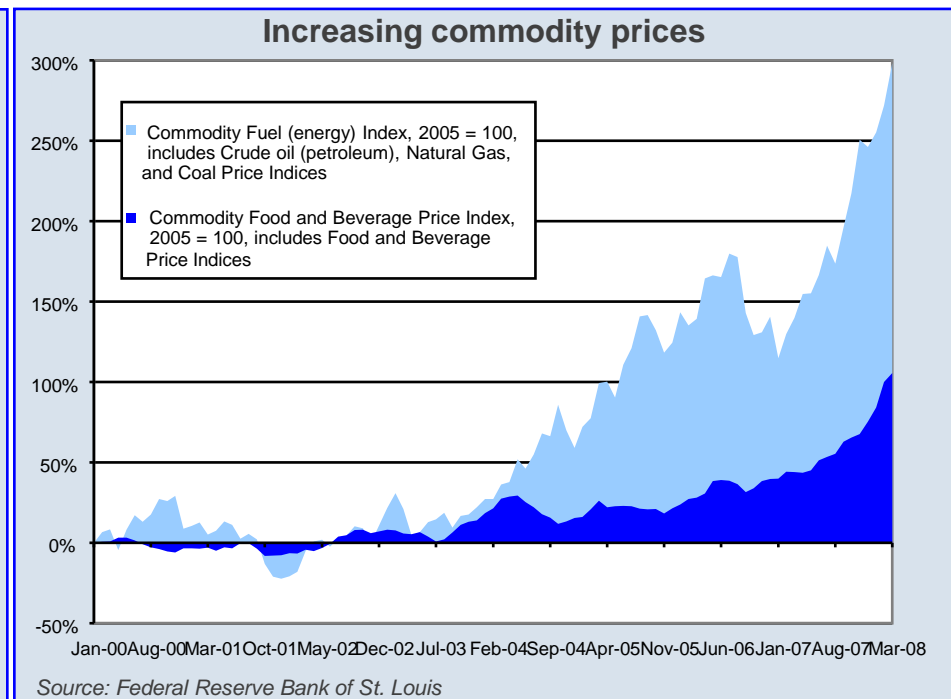
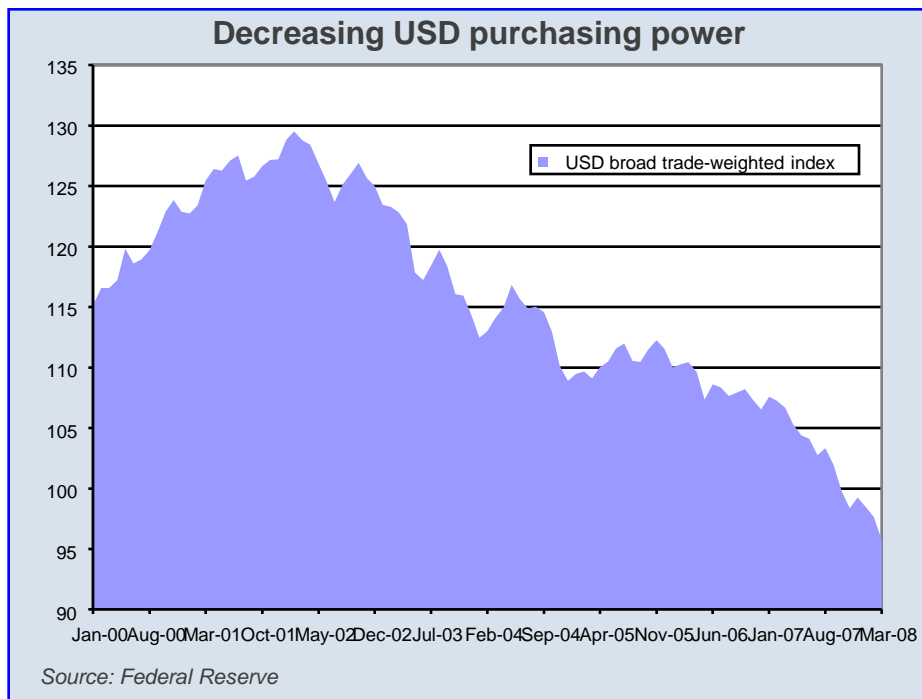
- Earlier this decade, the growth in emerging markets expanded global output capacity and held prices down for a number of years, offsetting underlying commodity-inflation pressures



## Focus: The Price of Globalization

### Inflation Is Encompassing the Globe

- Trade deficits, augmented recently by easing of fed interest rate policy, weakened purchasing power of the dollar, causing another factor in commodity inflation
- The financial system crisis forced the fed to cut interest rates. The fed cannot respond to rising inflation. Furthermore, countries with USD peg are forced to track fed rate cuts even when they are not facing a recession



## Focus: Financial System

### What Went Wrong

- The roots of the current crisis go back to the 1990s, when consumers started to use increasing leverage to maintain high consumption. The U.S. saving rate in 1992 was 8.0%, fell to 4% by 2000, and became negative for a short while in 2005, before rising to around 1.5% today
- This long-term splurge in consumption was financed through the U.S. trade deficit. In 1992, the trade deficit was close to 1%; it peaked in 2005 at over 6.0% of GDP
  - For a long time, the emerging markets and U.S. were able to maintain this imbalance; U.S. consumes and emerging markets produce. However, this is unsustainable in the long run
- In the meantime, easy access to capital and advanced information technology allowed for the creation of complex financial instruments, which contributed to the development of a far more flexible, efficient and resilient financial system. All instruments were approved by the rating agencies
- The system was tested several times: by the Asian crisis in 1996, the debacle at Long-Term Capital Management in 1998, and the dot-com bubble in 2000. With successful management of each crisis, consumers and financial institutions took on more leverage, believing that the current condition was sustainable



## Focus: Financial System

### What Went Wrong

- But this time the system cannot handle large overvaluation in housing and leverage used in the balance sheets of consumers and financial institutions. Investors are writing down massive assets. Liquidity is short. Banks have to cut back on lending, while the housing market is still in a free fall to the extent that some homeowners are walking away from their liabilities
- The dire situation makes it clear that the system is broken, and we must contemplate a banking system that does not involve a fed bailout after each bubble

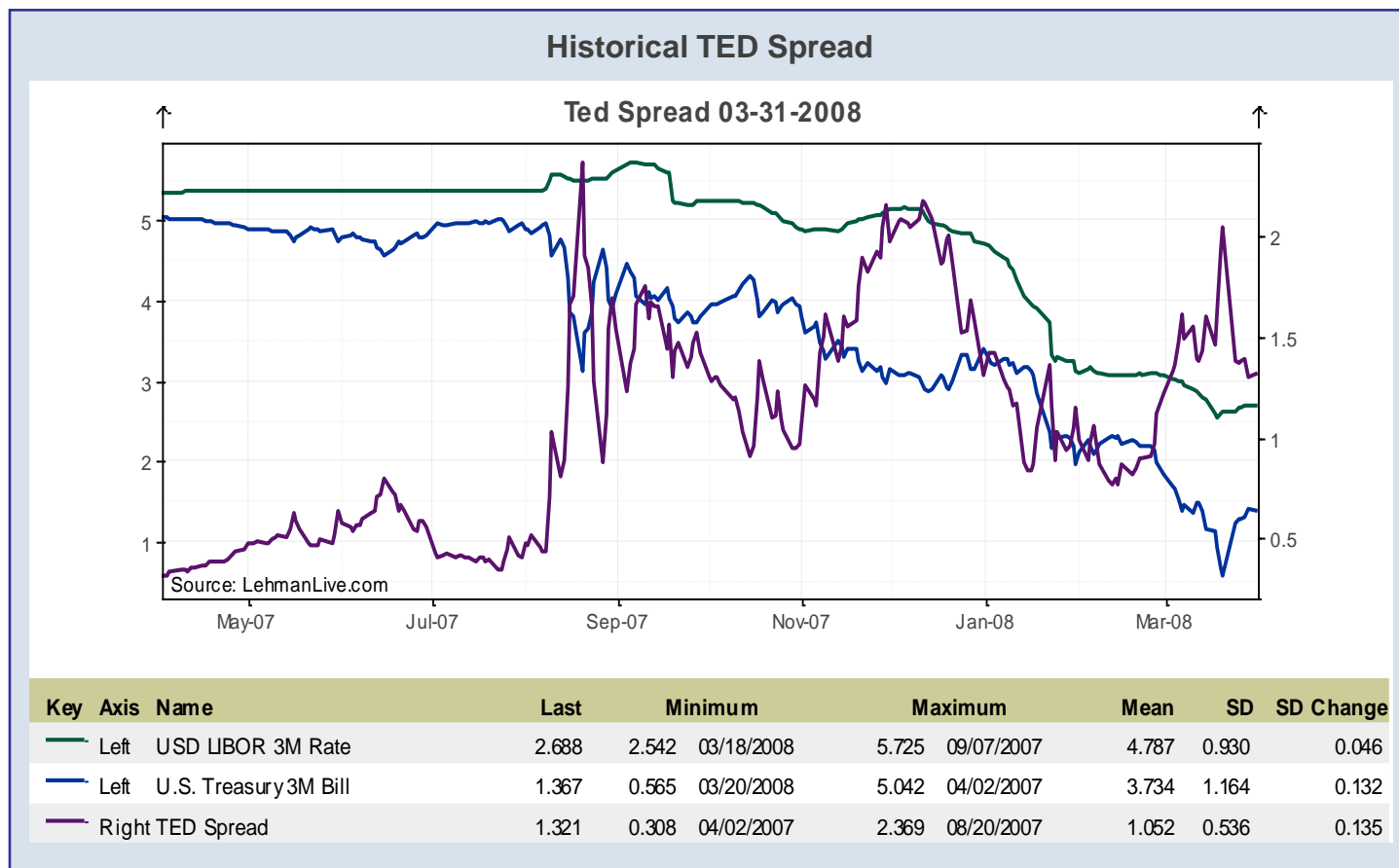
## Focus: Financial System

### ... Should It Be Fixed? Can It Be Fixed?

- With the recent interventions, especially the TSLF and PDCF, the fed has taken ground-breaking steps to save the financial system. However, with this action the fed has become a last resort for the investment banks. Using public money to stabilize the system is a short-term fix for fundamental problems
- To structurally correct the financial system, much more is required. Here are some potential solutions:
  - Expand the regulatory influence of the fed and other agencies to cover any institution that uses its discount window. That is, regulate investment banks and broker/dealers, not just commercial banks
  - Reevaluate the role of government-sponsored enterprises (FNMA, FHLMC, FHA regional banks)
  - Develop new credit standards for rating agencies
  - Implement new accounting rules – for example, Basel II
- Certain sectors are already self-correcting
  - In housing, no-doc loans and no down payments are almost unheard of instead of being common
  - Within structured finance, reevaluation of the securitization process – greater appreciation of systemic liquidity risk and warehousing risks in securitization

## Focus: TED Spread Remained at 1.0% or Higher

Continued Hesitancy of Banks to Lend to Each Other;  
Typically, Spread Is Around 40 bps



TED spread (3-Month LIBOR – 3-Month Treasury Bills)

# U.S. Economic Update

## Sluggish Economic Growth Outlook

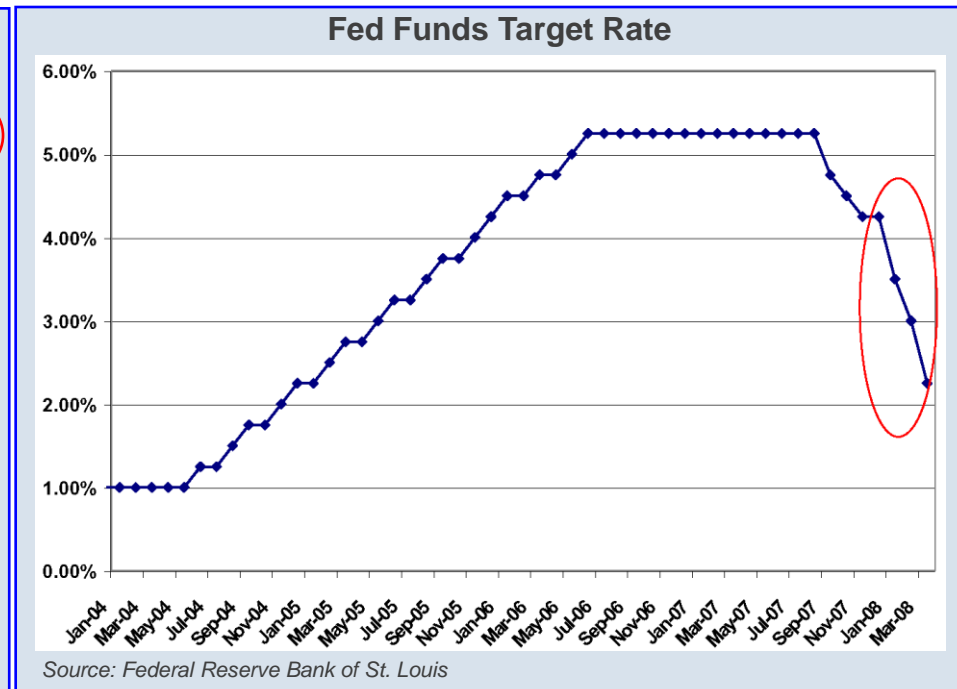
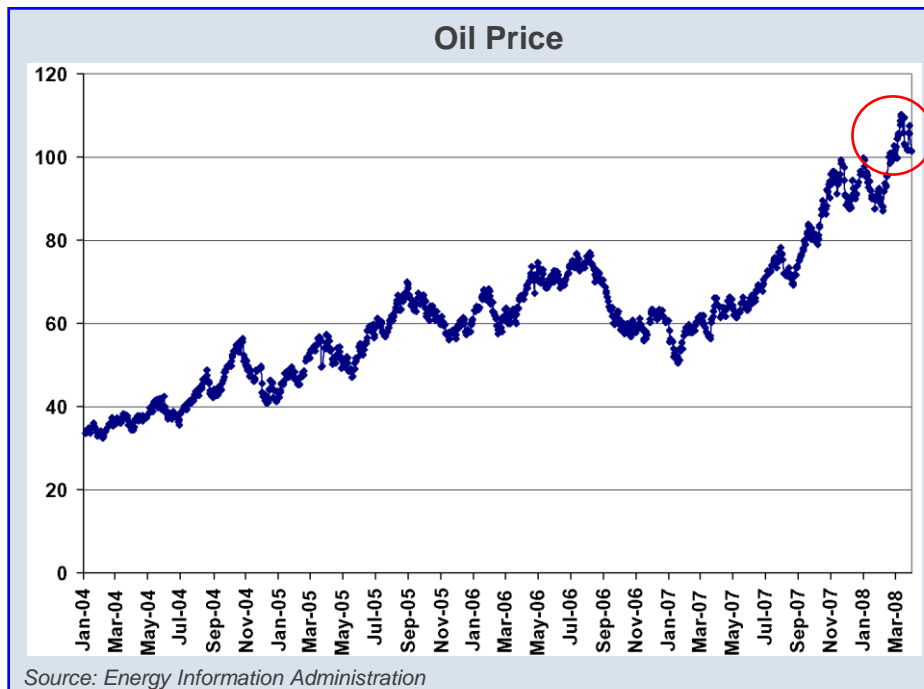
- Many economists believe deepening housing contraction, softening labor markets, and strained financial market conditions may lead to a recession
- The advance estimate of annualized first-quarter GDP growth was 0.6%, following 0.6% growth in the fourth quarter and 4.9% growth in the third quarter.



# U.S. Economic Update

## Sluggish Economic Growth Outlook

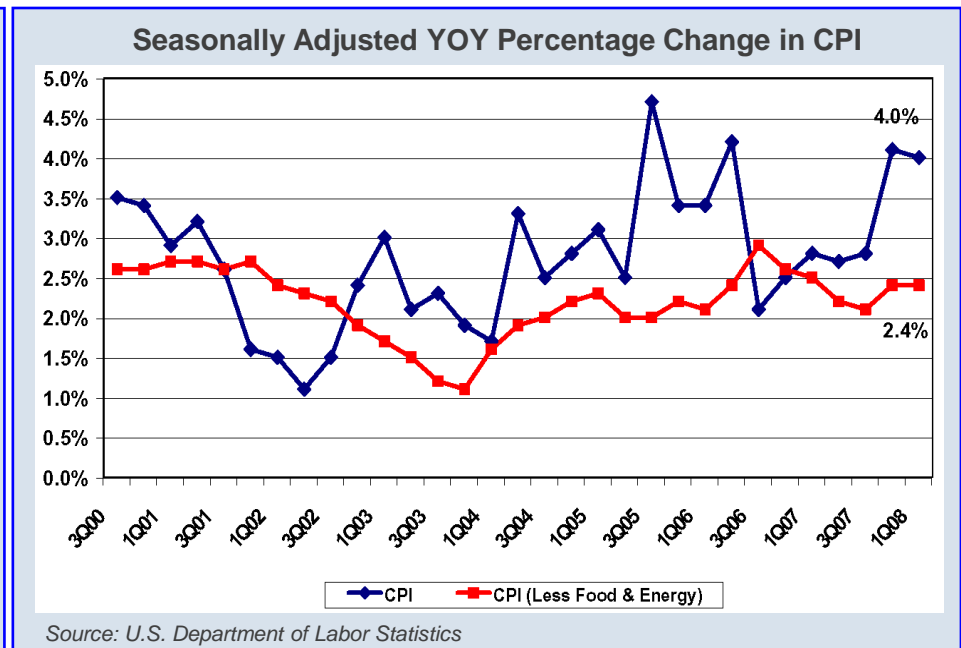
- The Fed lowered the federal funds rate by 200 basis points to 2.25% and the discount rate by 225 basis points to 2.50% during the quarter. Uncertainty about the inflation outlook and downside risks to growth remain
- Crude oil surged as high as \$110 in the first quarter and ended the quarter above \$101, fueling inflation concerns



# U.S. Economic Update

## High Inflation and Increasing Unemployment

- Retail trade sales were almost flat at 0.1% from the preceding month, but over 1 year, sales rose 1.8%. Offsetting a decrease for building materials was an increase in gas sales
- After rising in January, both headline and core inflation as measured by the CPI were flat in February compared to the preceding month. However, in early March, prices of oil and other commodities rose sharply
- Unemployment rate has climbed to 5.1% in March, with payroll declines of 232,000, driven mainly by continued job losses in construction, manufacturing, and employment services



# U.S. Economic Update

## 1Q 2008 Events Review and a Deteriorating Outlook for Home Prices

### 1Q 2008 Policy Actions

**Jan 22:**

FOMC cut fed funds 75 bps to 3.50%  
inter-meeting

**Jan 30:**

FOMC cut fed funds 50 bps to 3.00%

**Feb 13:**

\$152 billion economic stimulus bill passed

**Mar 11:**

Fed created Term Securities Lending  
Facility (TSLF)

**Mar 14:**

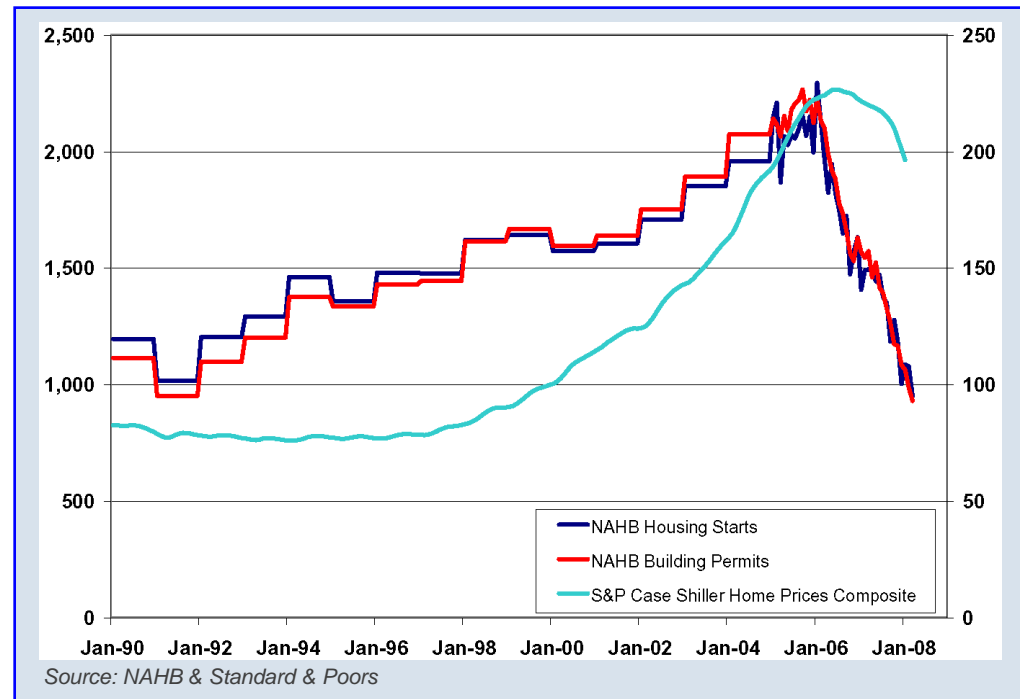
Provided funds to Bear Stearns via JP  
Morgan

**Mar 16:**

JP Morgan acquires Bear Stearns;  
fed established Primary Dealer Credit  
Facility (PDCF)

**Mar 18:**

FOMC cut fed funds 75 bps to 2.25%



Record declines in home prices continued through the start of 2008. The 20-city composite recorded an annual decline of 10.7%. Of the 20 cities, 19 reported annual declines. Charlotte, NC was the only city posting a positive 1-year change of 1.8%

Source: Lehman Brothers Global Economics

# Securities Markets

## Market Highlights First Quarter 2008

### Positive

- Investment-grade bond market posted positive results, whereas treasuries outperformed all spread sectors, gaining 4.4%
- International bonds returned +10.9% in USD terms; most countries report double-digit gains
- REITS (+1.4%) and private real estate market (+3.2%) posted positive returns again
- Hedge funds (-3.9%) outperformed equity markets
- Private equity: increasing volume, \$59 billion raised during last qtr

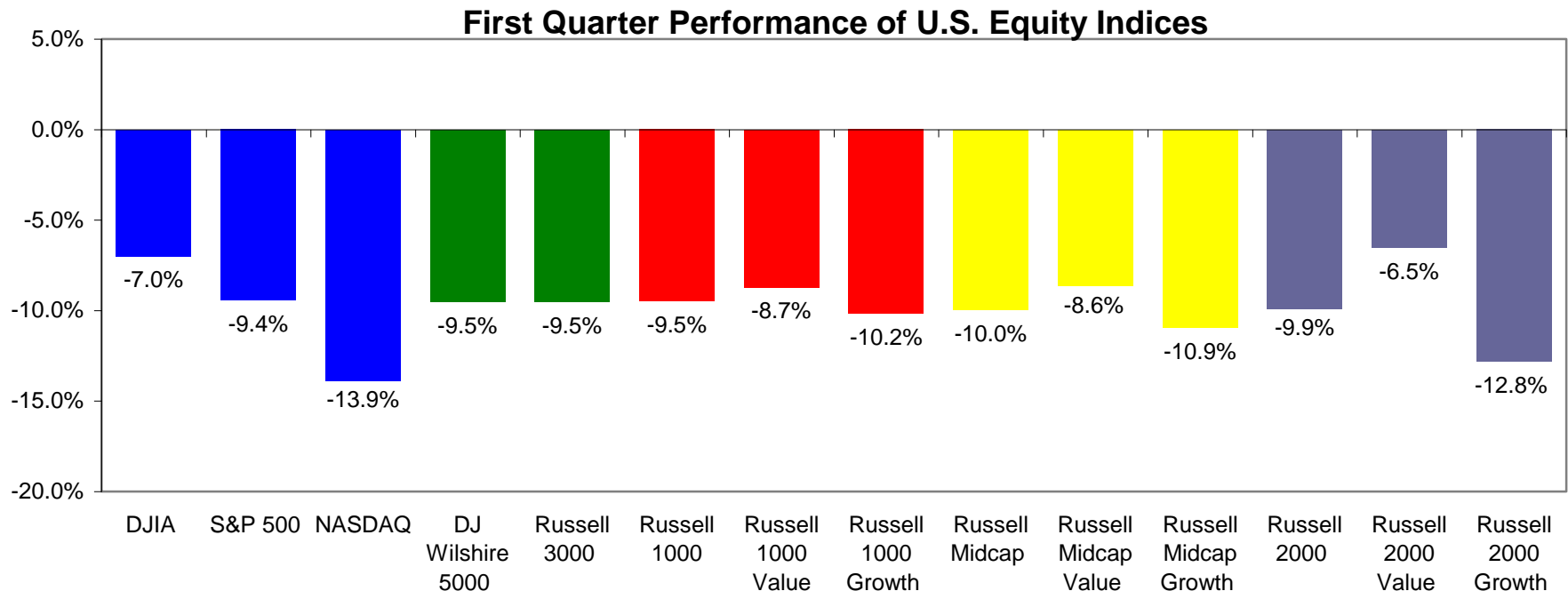
### Negative

- Stock market suffered losses amid concerns over negative corporate earnings and the credit and financial system crises (S&P -9.4%, EAFE -8.9%)
- Growth underperformed value across all market capitalizations
- Small cap stocks underperformed large-cap stocks by a small margin
- Technology, telecommunication and financial sectors suffered most
- High Yield Bond Index posted its worst quarterly returns since June 2002

## U.S. Equity Struggles Across All Market Caps

### Value, Core, and Growth Stocks Posted Losses

- Fueled by a banking system struggling to cope with the increasing effects of the subprime mortgage malaise and a further declining housing market, U.S. stocks declined across all market caps (large, mid, small) and investment styles (value, core, growth)
- A reversion from fourth quarter 2007, value-oriented stocks outperformed their growth counterparts as investors fled from growth in favor of value
- Mega-cap and large-cap equities generally outperformed smaller-cap equities

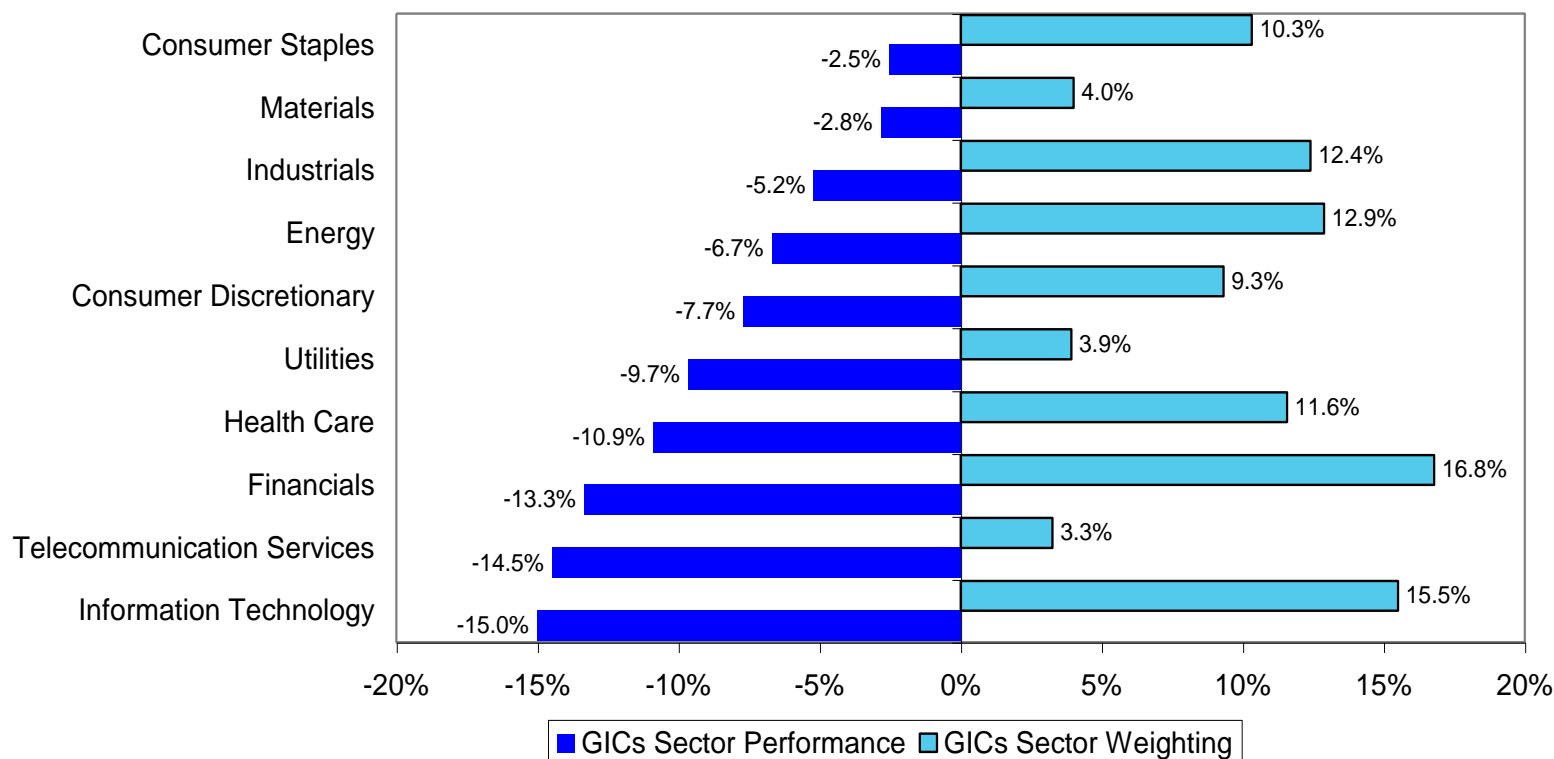


# Large-Cap Stock Outperformed Mid- and Small-Cap

## Poor Performance in Growth Sectors

- All 10 sectors reported losses for the quarter
- Information technology was the hardest-hit sector followed by telecommunication services
- Despite having positive returns in January, with 10 of the 25 top-performing stocks in the financials sector, the sector ended the quarter negatively as 35 financial services firms lost more than 10% of their value in March

**First Quarter GICS Sector Performance - Russell 1000 Index**

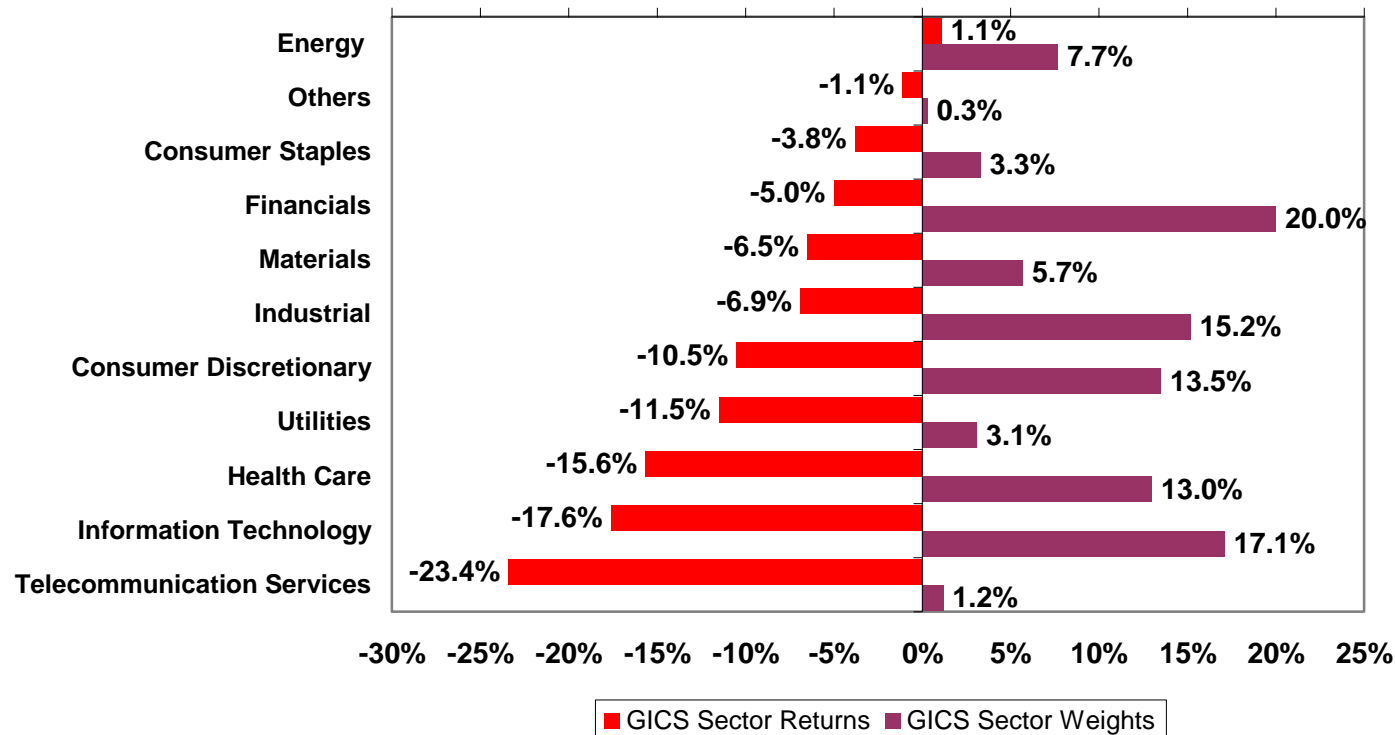


## Small-Cap Stocks Finished in the Red

### Poor Performance in Telecommunication and Technology

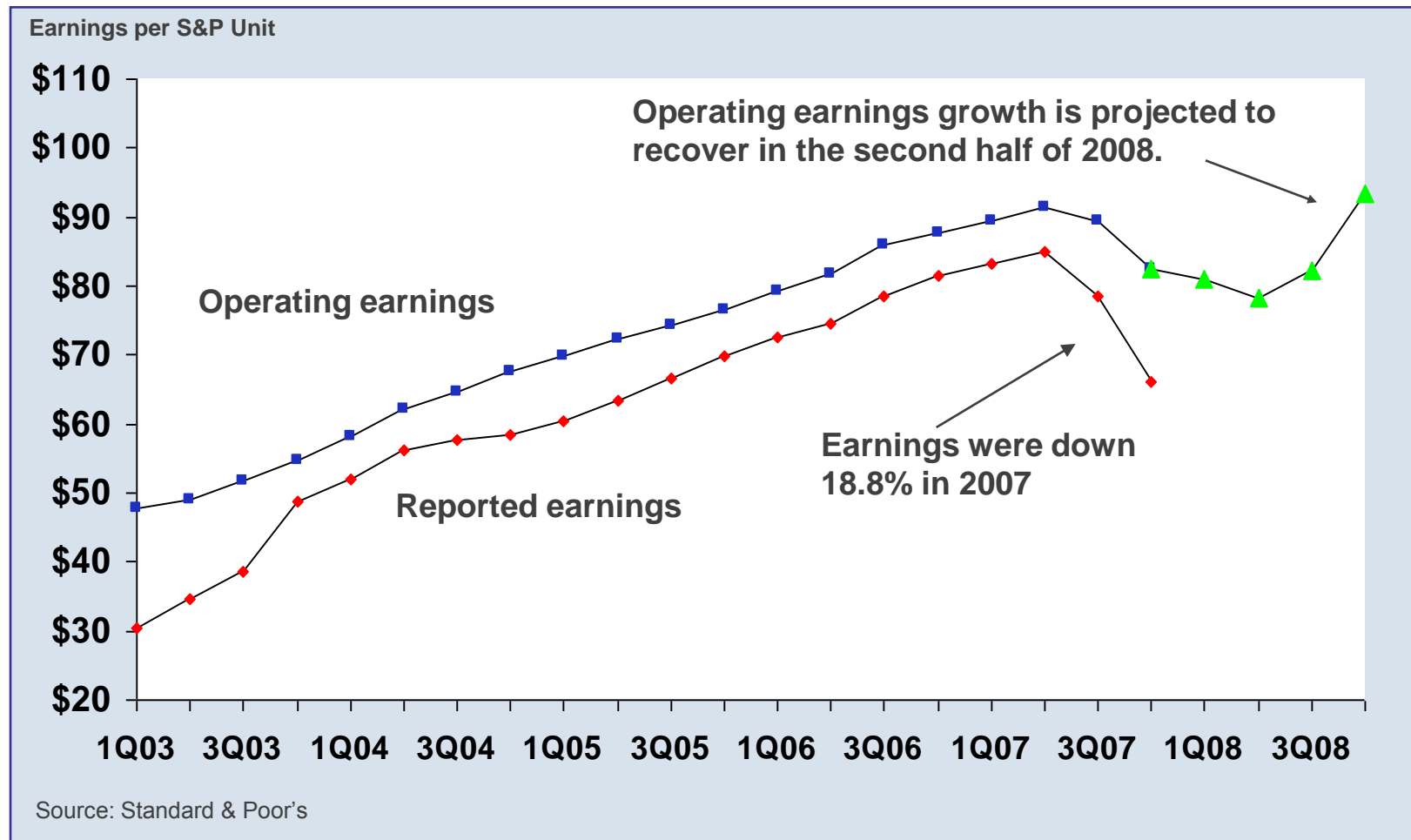
- Nine out of 10 sectors posted losses for the quarter
- Small-cap value stocks were the strongest performers, returning -6.53%
- As with large- and mid-cap stocks, information technology and telecommunication were the poorest performers

First Quarter Sector Performance - Russell 2000 Index



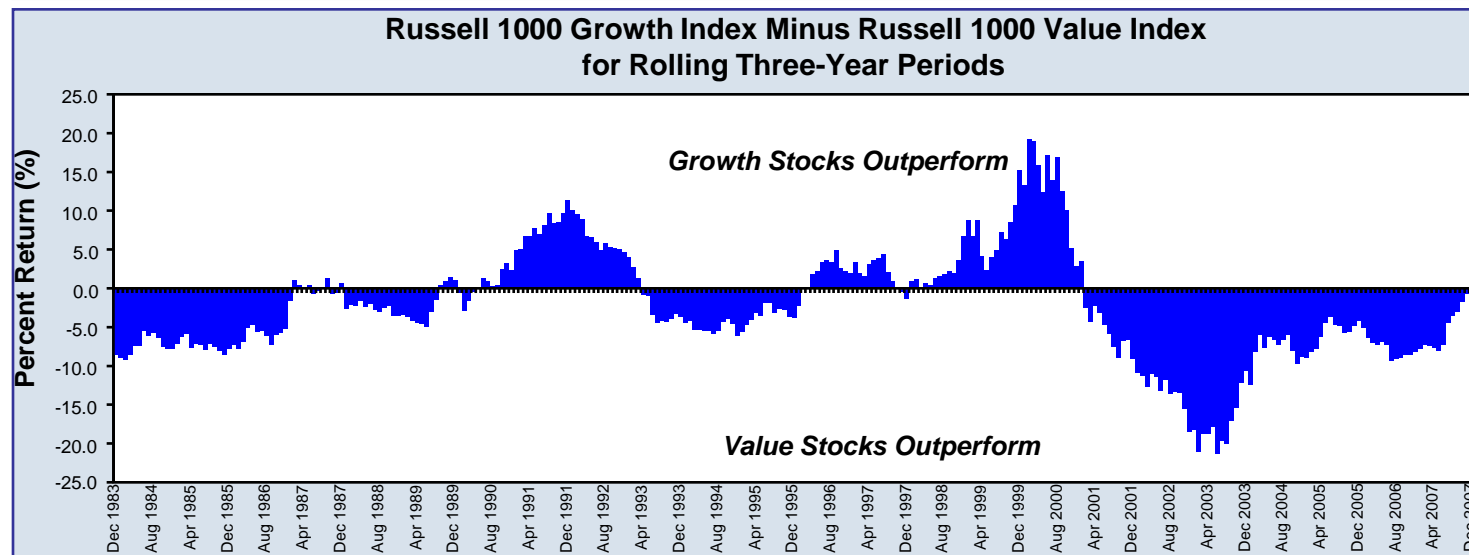
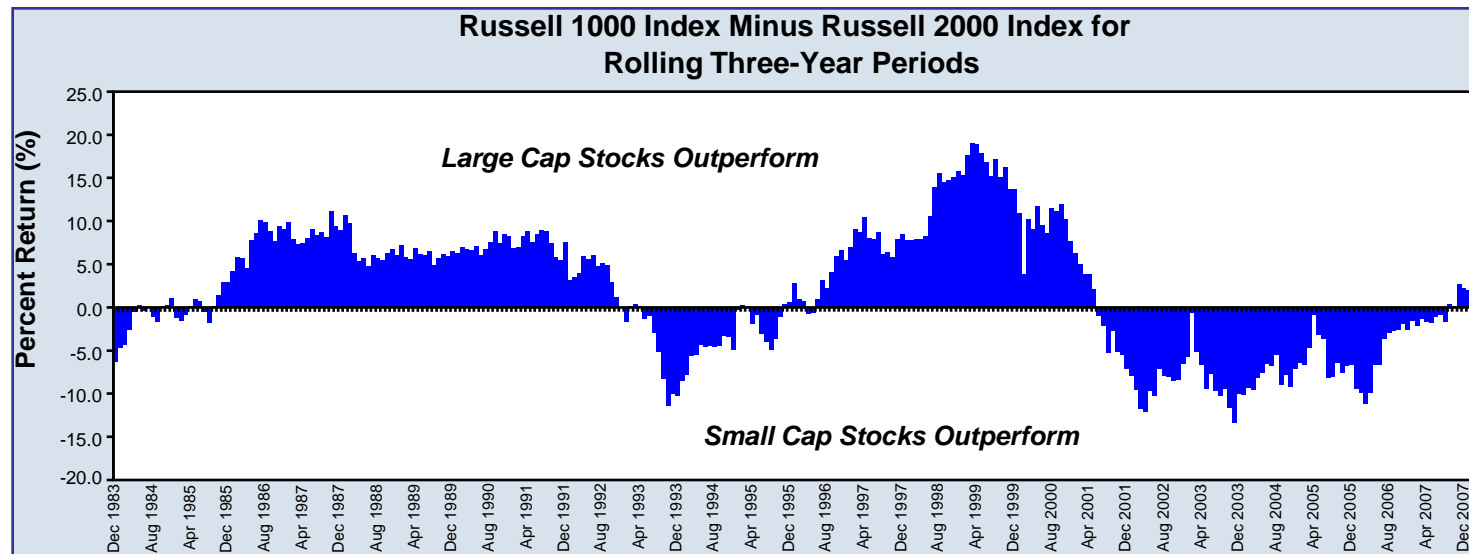
# Earnings Decline

## S&P 500 Trailing 1Q 2008 Earnings per Unit



# Domestic Equity

## Style and Market Capitalization Comparison



## First Quarter and One-Year Returns Provided Negative Results

- 1Q2008: Growth lagged value across all market capitalizations
- 1-Year: – Large-cap outperformed mid- and small-cap
  - Growth: large-cap is superior
  - Value: lost most

1Q2008			
	Growth	Core	Value
Large	-10.2%	-9.5%	-8.7%
Mid	-10.9%	-10.0%	-8.6%
Small	-12.8%	-9.9%	-6.5%

1 Year Returns			
	Growth	Core	Value
Large	-0.8%	-5.4%	-10.0%
Mid	-4.6%	-8.9%	-14.1%
Small	-8.9%	-13.0%	-16.9%

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth

## Three-Year and Cumulative 3-Year Are Moderate

- 3-Year Returns: – Mid-cap was ahead across all styles  
– Spread between styles begins to close
- Cumulative 3-Year: Small-cap is lagging

3 Year Returns				Cumulative 3-Year			
	Growth	Core	Value		Growth	Core	Value
Large	6.3%	6.2%	6.0%		20.2%	19.7%	19.1%
Mid	7.8%	7.4%	6.6%		25.2%	23.7%	21.0%
Small	5.7%	5.1%	4.3%		18.2%	16.0%	13.6%

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth

## Five-Year Results Are Still Above Expectations

- 5 Year Returns: Large-cap underperforms mid- and small-cap
- Cumulative 5-Year: Mid-cap returns were strong across all styles

5 Year Returns			
	Growth	Core	Value
Large	10.0%	11.9%	13.7%
Mid	15.2%	16.3%	16.8%
Small	14.2%	14.9%	15.5%

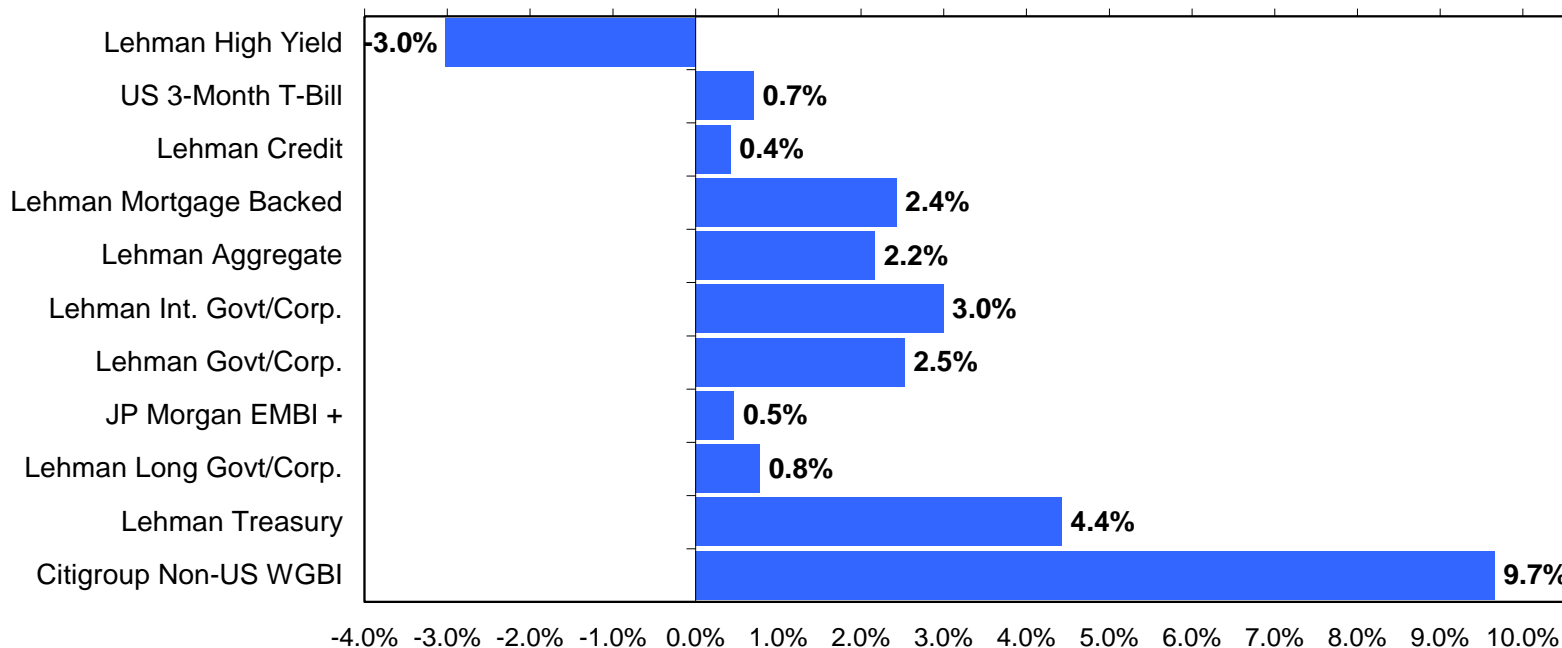
Cumulative 5-Year			
	Growth	Core	Value
Large	60.8%	75.1%	89.9%
Mid	102.9%	112.9%	117.1%
Small	94.6%	100.3%	105.1%

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth

## U.S. Fixed Income

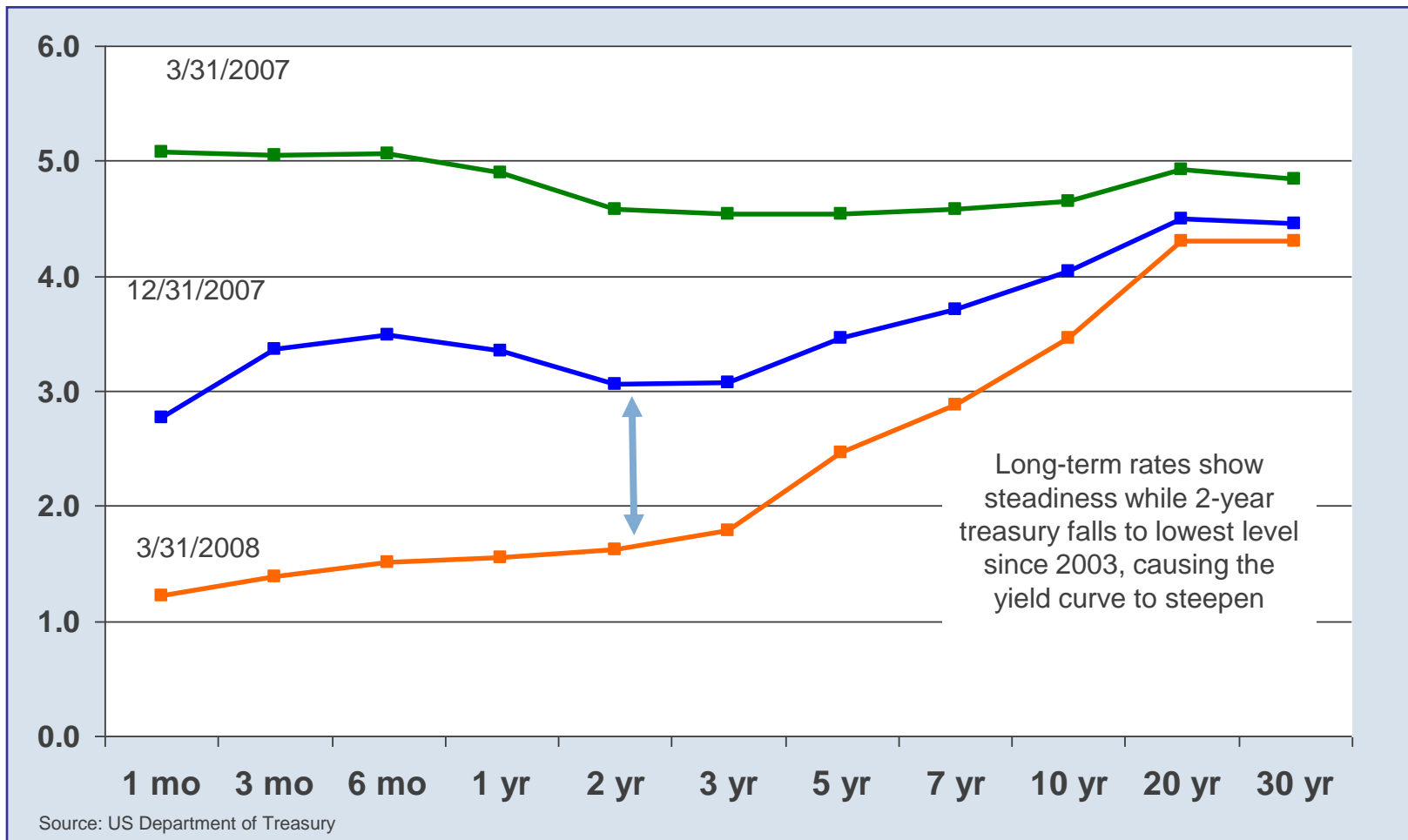
- Flight to quality evidenced by treasuries continuing to show the highest sector return within the Lehman U.S. Aggregate Bond Index
- Lehman U.S. High Yield Index posts worst quarterly return since second quarter 2002
- Fed cuts rates from 4.25% to 2.25% through three successive rate cuts
  - First cut was a 75 basis point emergency cut announced a week before the Jan. 30 meeting; the first inter-meeting rate cut since Jan. 2001
- Fed facilitates rescue of Bear Stearns and creates the Primary Dealer Credit Facility (PDCF)
- Fed extends the length of loans available through the discount window and accepts highly rated non-agency mortgage-backed securities as collateral

**First Quarter Fixed Income Performance**



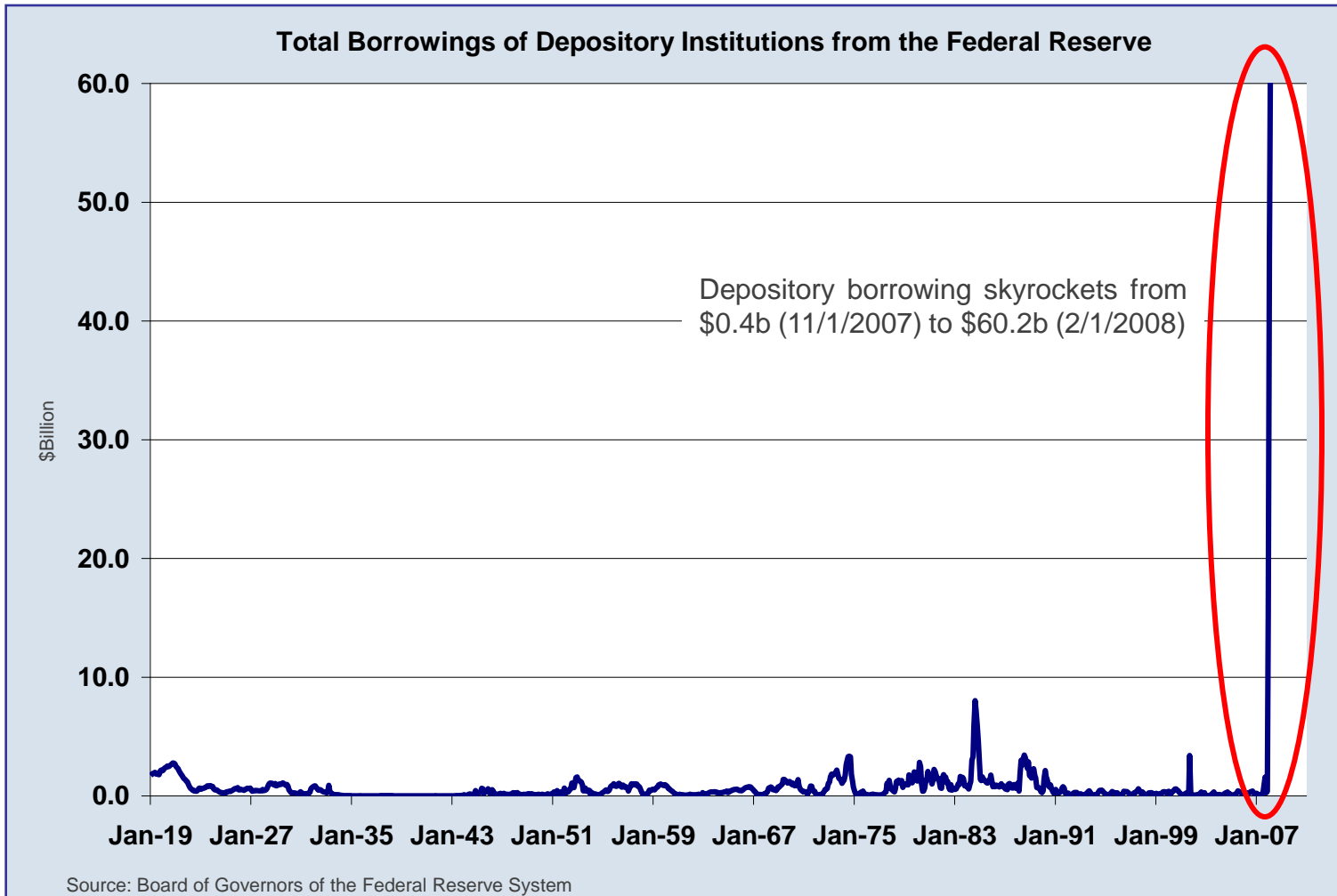
# U.S. Fixed Income

## Yield Curve – 2-Year Treasury Falls 143 bps



## U.S. Fixed Income

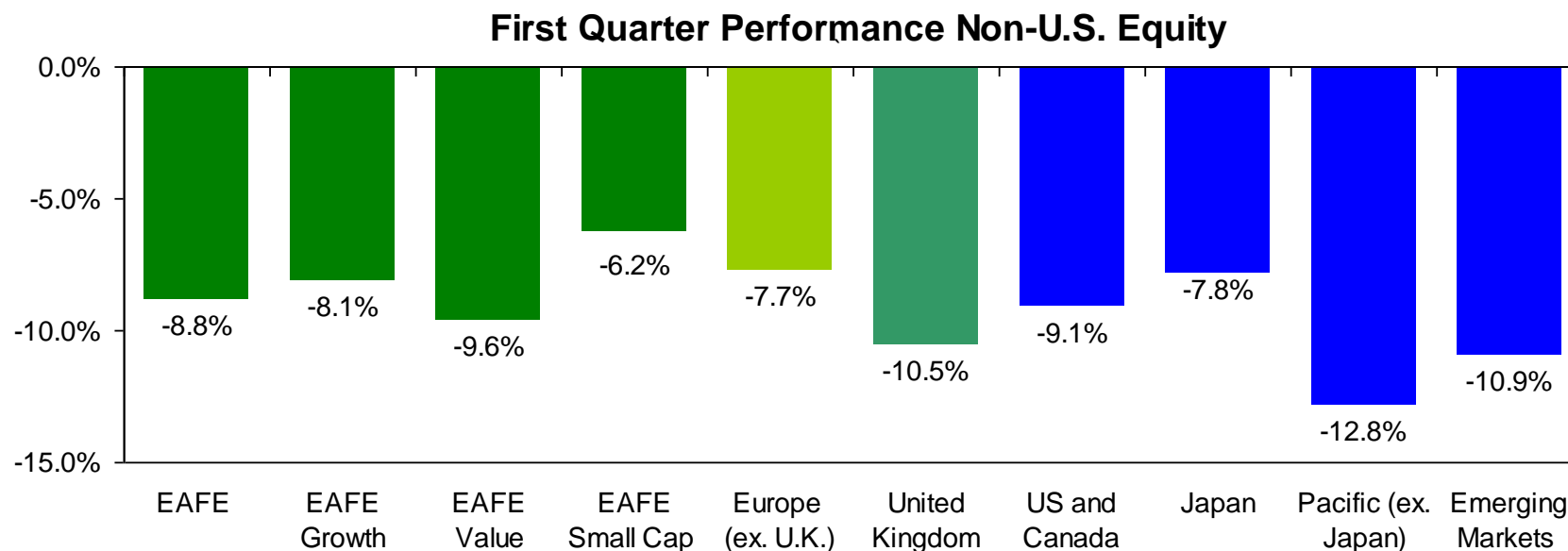
### Total Borrowings of Depository Institutions from the Federal Reserve



## Non-U.S. Equities Outpaced Domestic Market

### A Weak Foreign Market

- MSCI EAFE declined 8.8% in the first quarter of the year and declined 2.3% for the year
- Most countries posted losses for the quarter. Denmark was the only country to post a small positive return this quarter
- EAFE, Europe and Japan posted much more negative returns in local currency terms; however, the continued dollar depreciation helped most markets realize less-negative results



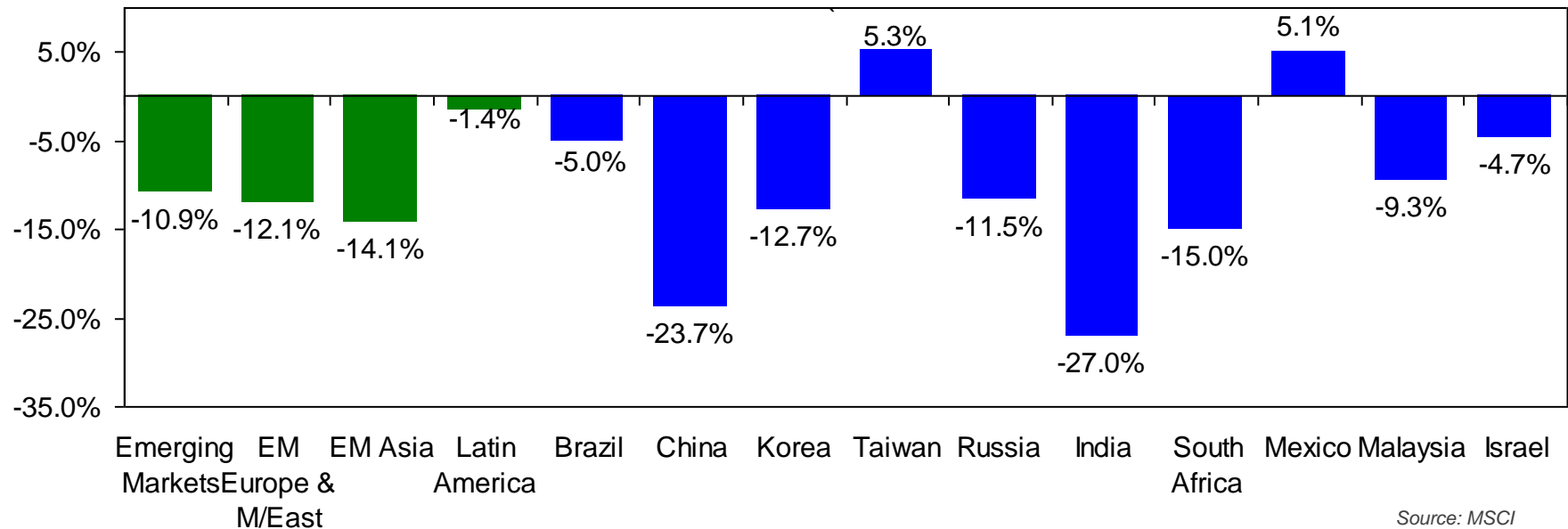
Source: MSCI

## International Equities – Emerging Markets

### Emerging Markets Produced Weak Returns Across Most Regions

- MSCI Emerging Markets Index posted -10.9% in the first quarter of the year and gained 21.7% for the year
- Taiwan, which represents 11.7% of the index, was a driver of growth posting a gain of 5.3% for the quarter
- Latin America led all regions with a -1.4% return. All regions posted losses for the quarter
- Top performers included Morocco, Pakistan, Chile, Egypt, and Argentina, all posting results above 6% for the quarter
- Double-digit losses occurred in India, China, South Africa, Korea and Russia

**First Quarter Performance Emerging Markets**



Source: MSCI

## International Equity Markets' Mixed Results

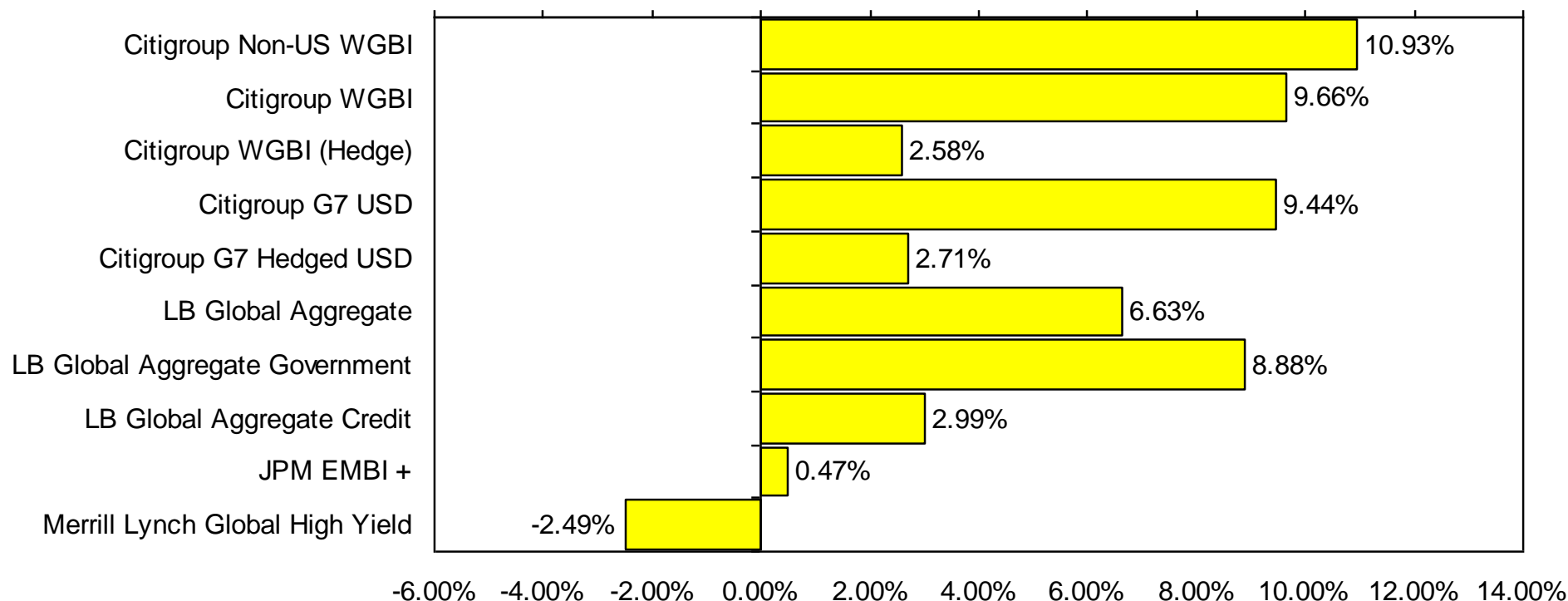
- Short-term performance: growth outperformed value
- Long term performance: still well above long-term expectations
- World indices ex-U.S. outperformed EAFE for 1, 3 and 5 years across style

As of March 2008 (Q1)	3 Months	1 Year	3 Years	5 Years
MSCI AC Wld ex US	-9.1%	2.6%	16.5%	24.0%
MSCI AC Wld ex US Growth	-8.7%	6.2%	17.3%	22.3%
MSCI AC Wld ex US Value	-9.4%	-1.0%	15.7%	25.7%
MSCI EAFE	-8.8%	-2.3%	13.8%	21.9%
MSCI EAFE Growth	-8.1%	2.3%	14.7%	20.2%
MSCI EAFE Value	-9.6%	-6.8%	12.8%	23.5%
MSCI EAFE SC	-6.2%	-10.9%	11.5%	25.9%

## International Fixed Income Posted Strong Returns

- Global bond markets outperformed global equities over the quarter
- On an unhedged basis, global bonds rallied because of the continued depreciation of the USD
- Flight to quality pushed up prices for higher-quality debt; high yield posted negative returns
- On a sector basis, credits lagged government bonds

**First Quarter 2008 Fixed Income Performance**



## Real Estate – U.S. REITs

### NAREIT & NCREIF Indices Quarterly Return (Jan 1990 – Mar 2008)

- **Public Real Estate**

NAREIT Index returned -0.4% for the first quarter of 2008, improving from -12.0% for the fourth quarter of 2007

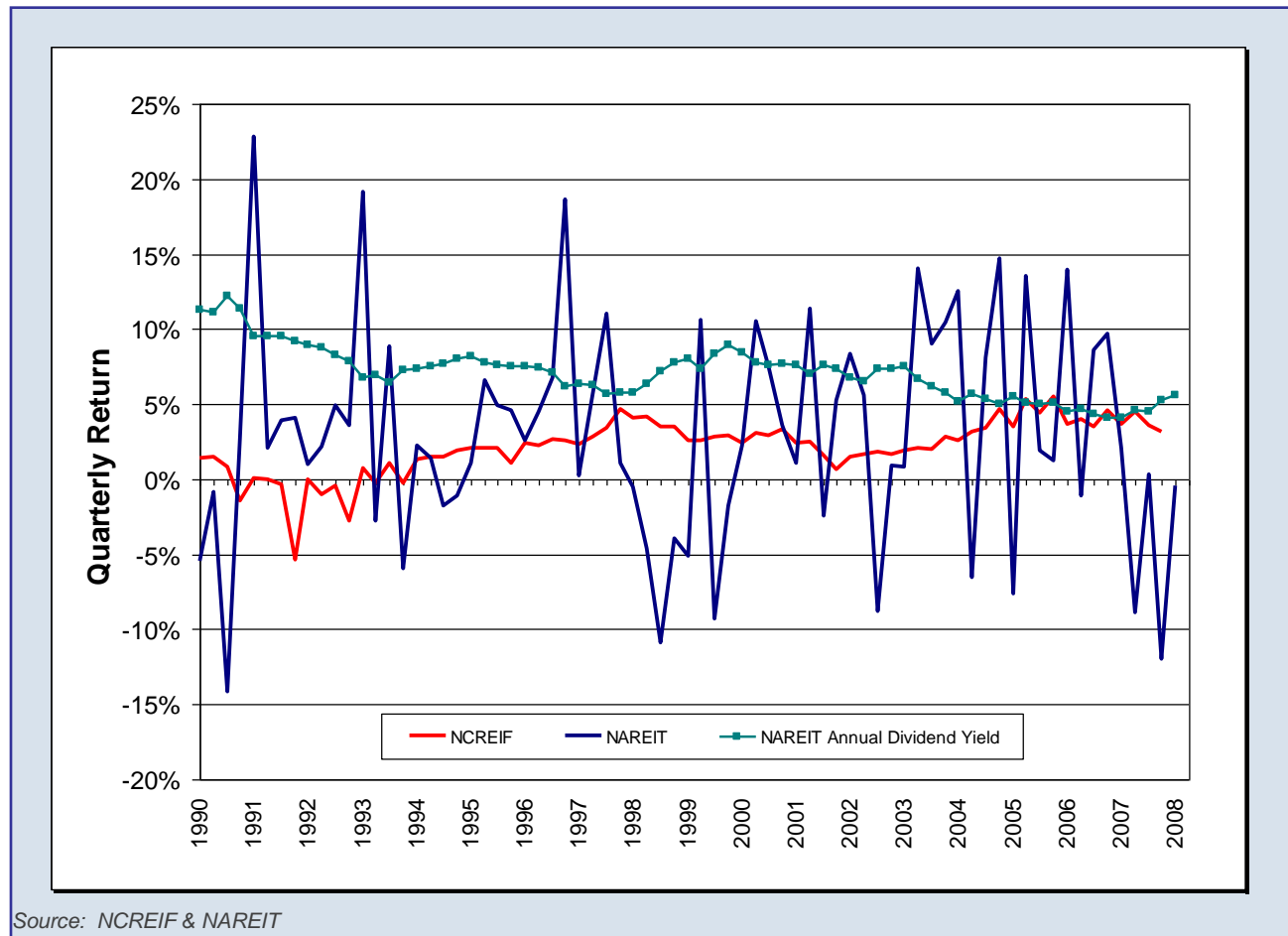
- **Private Real Estate**

NCREIF Property Index was up 3.2% for the fourth quarter of 2007:

- 1.9% capital appreciation
- 1.3% income

Sector contribution:

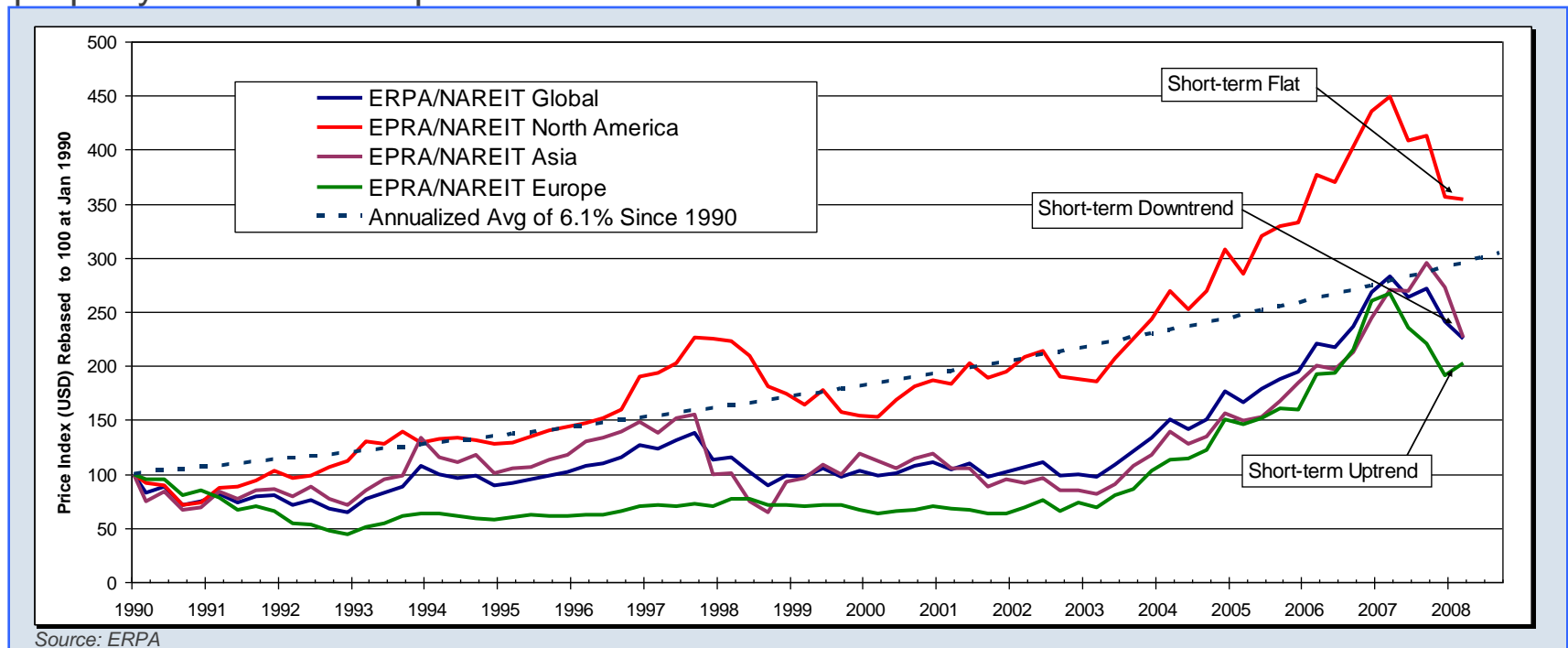
- Apartment 1.9%
- Industrial 2.6%
- Office 3.8%
- Hotel 4.0%
- Retail 3.9%



# Real Estate – Global REITs

## Global Real Estate Index Fell 6.5% in 1Q 2008

- For the first quarter, the EPRA/NAREIT Global Real Estate Index posted a -6.5% return, with the following regional market-cap breakdown and corresponding returns:
  - 39% to North America (EPRA/NAREIT North America Index returning -0.6%)
  - 40% to Asia (EPRA/NAREIT Asia Index returning -17.1%)
  - 21% to Europe (EPRA/NAREIT Europe Index returning 5.8%)
- Drying liquidity creating harsh operating conditions for Asian real estate developers
- Strong population growth in the UK (projected 61 million to 70 million) providing a base for property values in Europe



# Private Equity

## Fund-Raising Mixed; Credit Crunch Affects Leveraged Activities

- During the first quarter of 2008, U.S. private equity firms raised \$58.5 billion in 81 funds
- LBO fund-raising declined 22% to \$27.6 billion when compared to the first quarter of 2007
- Decline in M&A activities due to the credit crunch and uncertainties in the economic environment
- Increased funding in venture capital funds at \$5.0 billion with 32 funds closed
- European private equity raised \$17.3 billion for investments during the quarter, up \$3.3 billion from a year ago

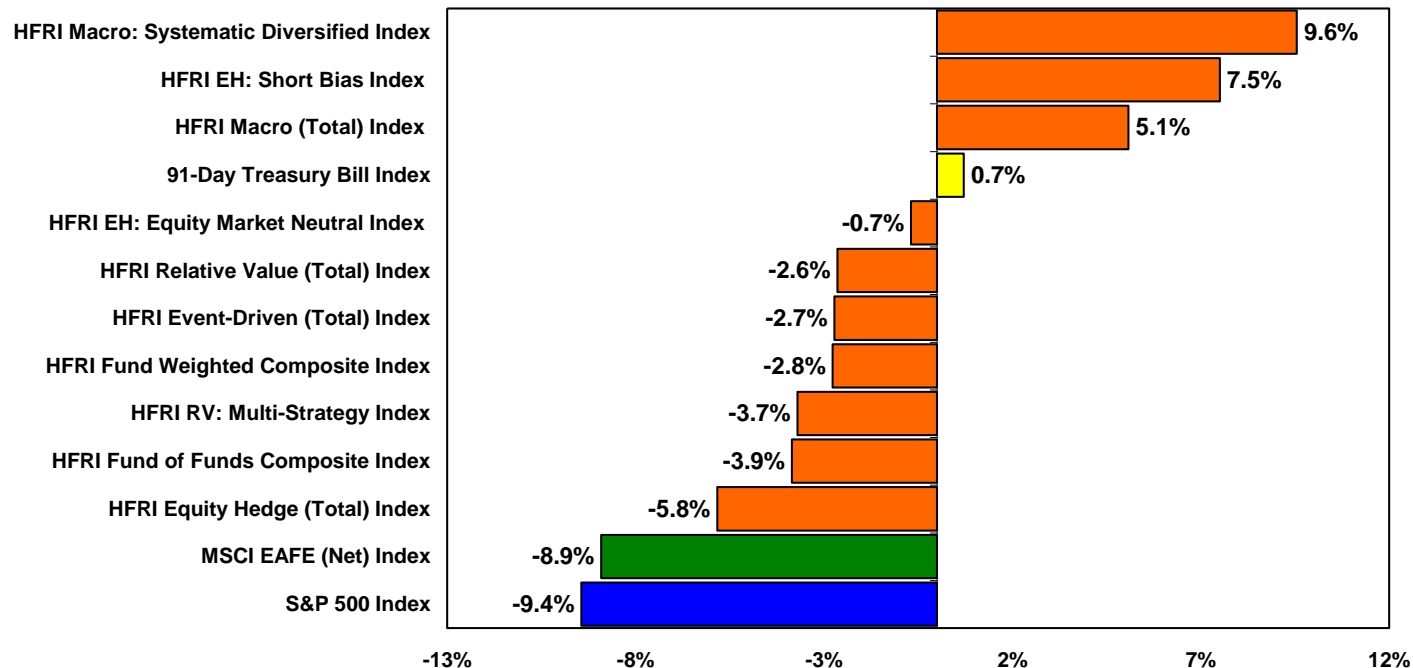
	US Private Equity				European Private Equity			
	1st Quarter 2008		1st Quarter 2007		1st Quarter 2008		1st Quarter 2007	
	Funds	Amount (mil)	Funds	Amount (mil)	Funds	Amount (mil)	Funds	Amount (mil)
Buyout/Corporate Finance	33	\$ 27,624	34	\$ 35,209	21	\$ 15,754	17	\$ 7,339
Mezzanine	4	\$ 22,271	1	\$ 67	2	\$ 232	2	\$ 360
Venture Capital	32	\$ 4,972	22	\$ 3,842	13	\$ 1,124	20	\$ 1,997
Fund of Funds	6	\$ 2,354	7	\$ 999	2	\$ 161	6	\$ 1,386
Secondary & Others	6	\$ 1,231	4	\$ 4,207	0	\$ -	2	\$ 2,896
<b>Total</b>	<b>81</b>	<b>\$ 58,452</b>	<b>68</b>	<b>\$ 44,324</b>	<b>38</b>	<b>\$ 17,271</b>	<b>47</b>	<b>\$ 13,979</b>

Source: Alpha Trade Finance and www.dowjones.com

# Hedge Funds

- Net asset flow was \$16,421 million for the quarter for the total industry (excluding performance gains/losses)
- Strongest-performing strategy for the quarter was the Macro strategy, increasing an estimated \$18,668 million just from gains in performance
- Weakest-performing strategy for the quarter was the Equity Hedge strategy, losing an estimated \$36,961 million through performance
- All strategies below outperformed the MSCI EAFE (net) and S&P 500 index

**First Quarter Hedge Fund Returns**



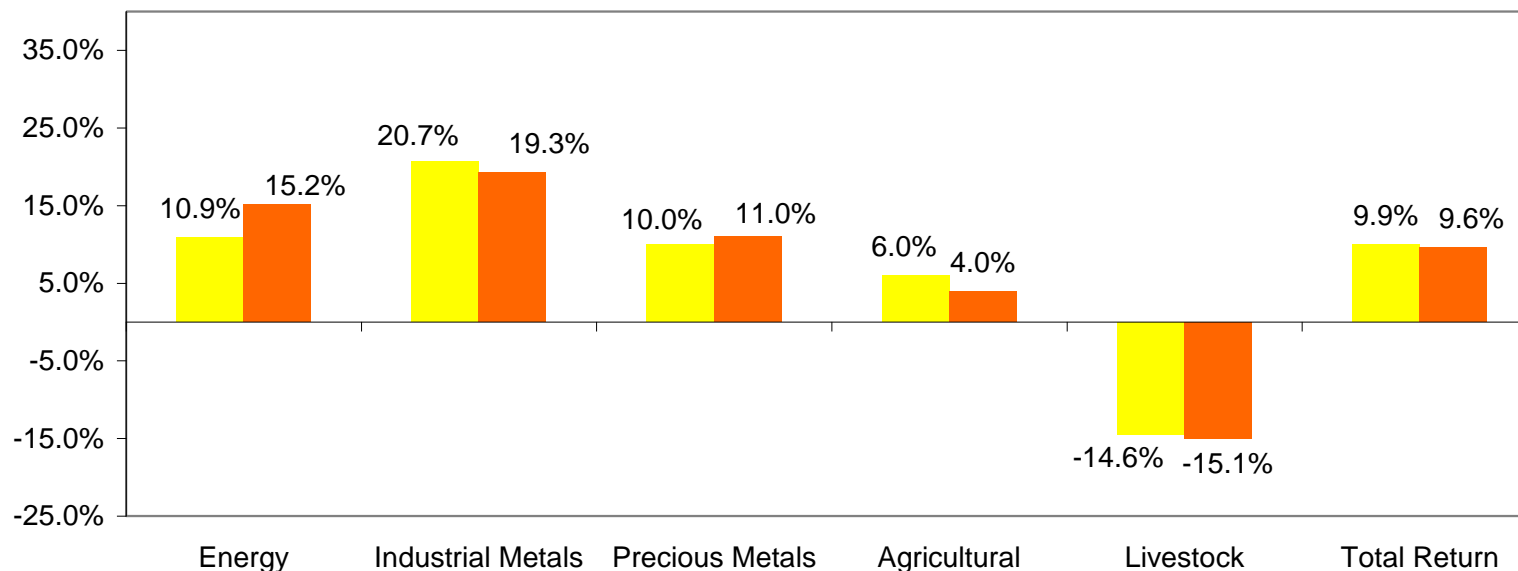
Source: Hedge Fund Research, Inc. Includes over 6,000+ constituent funds. Includes both domestic and offshore funds. All funds report assets in USD. All funds report Net of All Fees returns on a monthly basis. Weighted Composite Index excludes fund of funds.

# Commodities

## Performance Still Strong Despite Growing Fears of Recession in U.S.

- The S&P GSCI posted a 9.9% return, while the DJ-AIGCI posted a 9.6% return for the quarter
- Industrial metals was the strongest sector, a reversal from last quarter
- Energy placed second, hurt by a large inventory surplus and declining demand in gasoline
- The worst-performing sector was livestock, the only sector to post losses

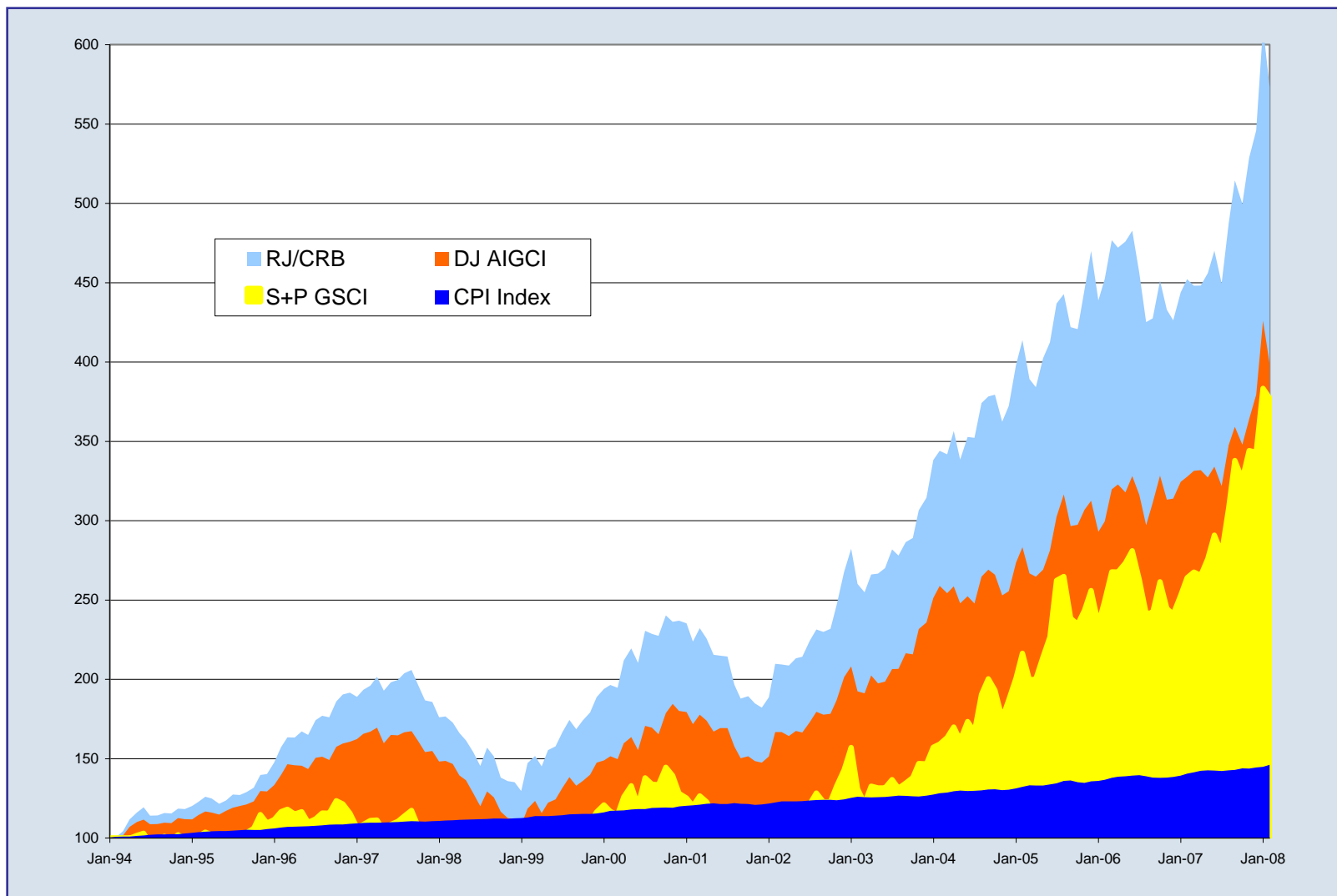
**First Quarter Return Commodities**



**Sector Breakdown 3/31/08**

<span style="color: yellow;">■</span> S&P GSCI	73.6%	7.8%	2.2%	13.2%	3.2%	100.0%
<span style="color: orange;">■</span> DJ AIGCI	34.6%	20.8%	10.0%	27.7%	6.9%	100.0%

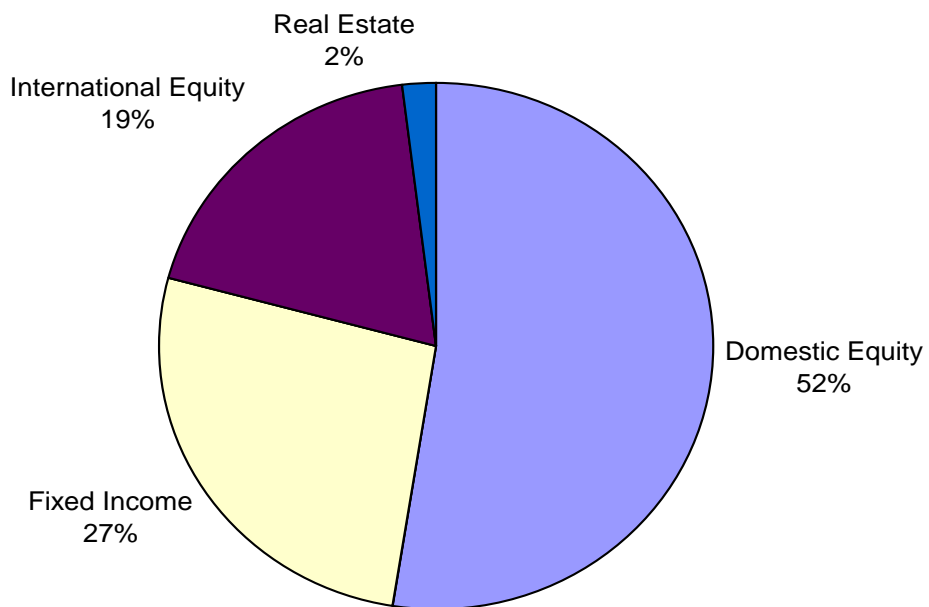
# Commodities Indices and CPI



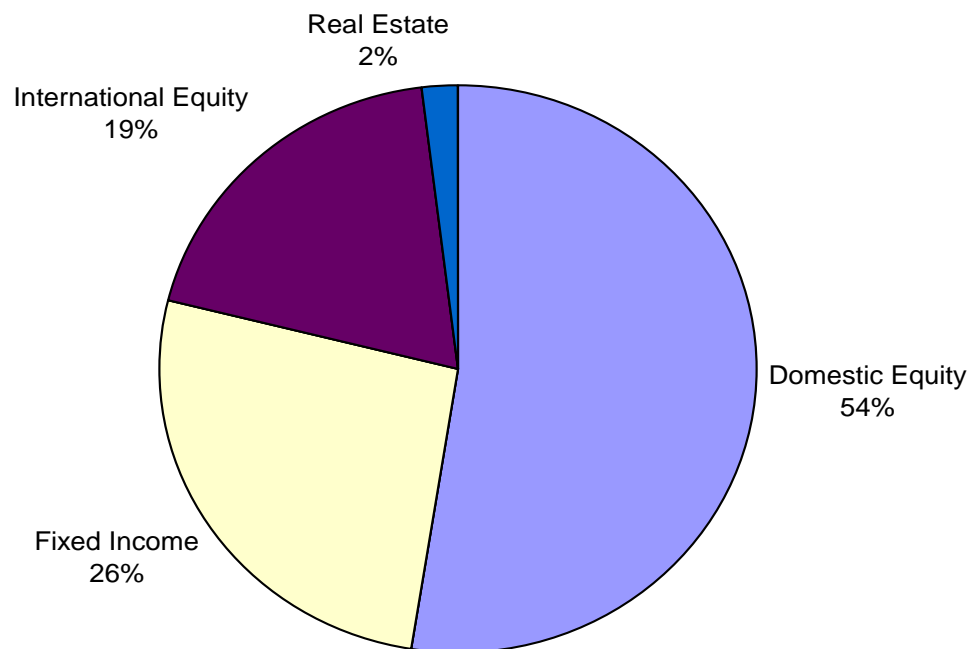
# ASRS Total Fund Performance

# Total Fund Asset Allocation March 31, 2008

## Policy Adjusted for Transition into Real Estate and Private Equity



## Actual Asset Allocation



# Total Fund Asset Allocation

## March 31, 2008

Actual Asset Allocation vs. Policy Adjusted for  
Transition into Real Estate and Private Equity



# Total Fund Performance

## For Periods Ending March 31, 2008

	<u>Quarter</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>	<u>Inception</u>
1) <b>ASRS Total Fund (Net)</b>	-6.3%	-2.4%	7.1%	11.7%	5.9%	10.6%
Benchmark*	-5.8%	-0.3%	7.6%	11.5%	5.2%	10.4%
Excess Return	-0.5%	-2.1%	-0.5%	0.2%	0.7%	0.2%

\* Interim Benchmark (current): 38% S&P 500, 7% S&P 400, 7% S&P 600, 27% LB Aggregate, 19% MSCI ACWI ex US, and 2% NPI+100 bps

Note: Interim Benchmark incorporates a proration of 4% real estate and 5% private equity

### Policy History:

- 7/1/75-12/31/79 – 40% S&P 500/60% LB Aggregate
- 1/1/80-12/31/83 – 50% S&P 500/50% LB Aggregate
- 1/1/84-12/31/91 – 60% S&P 500/40% LB Aggregate
- 1/1/92-12/31/94 – 50% S&P 500/40% LB Aggregate/10% EAFE
- 1/1/95-6/30/97 – 45% S&P 500/40% LB Aggregate/15% EAFE
- 7/1/97-12/31/99 – 50% S&P 500/35% LB Aggregate/15% EAFE
- 1/1/00-9/30/03 – 53% S&P 500/30% LB Aggregate/17% EAFE
- 10/1/03-12/31/06 – 53% S&P 500/26% LB Aggregate/15% MSCI EAFE/ACWI ex US<sup>(1)</sup>/6% NPI+100 bps
- 1/1/07-present – 31% S&P 500/7% S&P 400/7% S&P 600/26% LB Aggregate/18% MSCI ACWI ex US/6% NPI+100 bps/5% Russell 3000+300 bps

<sup>(1)</sup> MSCI EAFE/ACWI ex US Benchmark is the MSCI EAFE prior to 10/1/05 and the MSCI ACWI ex US thereafter

## Total Fund Performance For Periods Ending March 31, 2008

	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>	<u>Inception</u>
<b>ASRS Total Fund (Net)</b>	-2.4%	7.1%	11.7%	5.9%	10.6%
2) Actuarial Assumption	8.0%	8.0%	8.0%	8.0%	7.6%
Excess Return	-10.4%	-0.9%	3.7%	-2.1%	3.0%
3) Asset Allocation Target	8.3%	7.8%	7.7%	8.2%	N/A
Excess Return	-10.7%	-0.7%	4.0%	-2.3%	N/A
4) CPI Inflation + 3.75%	7.7%	7.2%	6.8%	6.5%	7.6%
Wage Inflation + 3.75%	10.9%	9.7%	8.1%	7.7%	8.3%
Excess Return - CPI	-10.1%	-0.1%	4.9%	-0.6%	3.0%
Excess Return - Wage	-13.3%	-2.6%	3.6%	-1.8%	2.3%

## Supplemental Comparison Information\*

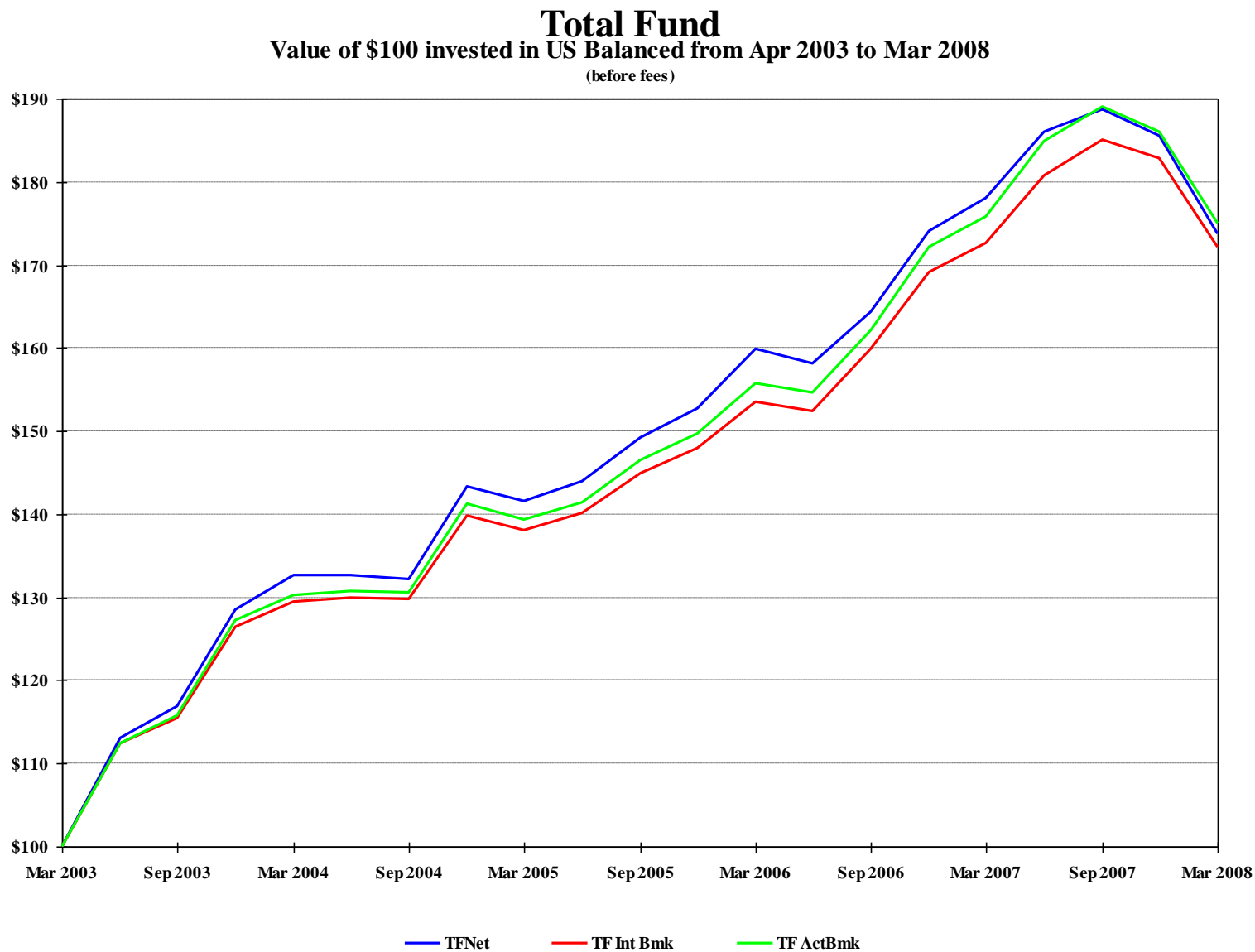
### For Periods Ending March 31, 2008

	1 Year	3 Years	5 Years	10 Years	15 Years
<b>Russell/Mellon Trust Universes</b>					
Master Trust Funds - Total Funds	86	64	51	67	69
Total Funds - Public	93	80	66	87	75
Total Funds Billion Dollar - Public	96	84	74	94	79
Total Funds - Corporate	84	64	49	65	69
<b>Wilshire Trust Universe Comparison Service</b>					
Master Trusts - All	81	50	31	61	55
Public Funds	79	55	33	66	40
Public Funds Greater than \$1.0 Billion	95	79	52	77	54
Corporate	76	52	36	65	70
<b>Callan Associates Inc.</b>					
Total Funds	83	69	51	62	53
Public Funds	86	71	52	71	47
Public Funds - Large (>1B)	95	88	71	79	56
Corporate Funds	84	72	53	59	56

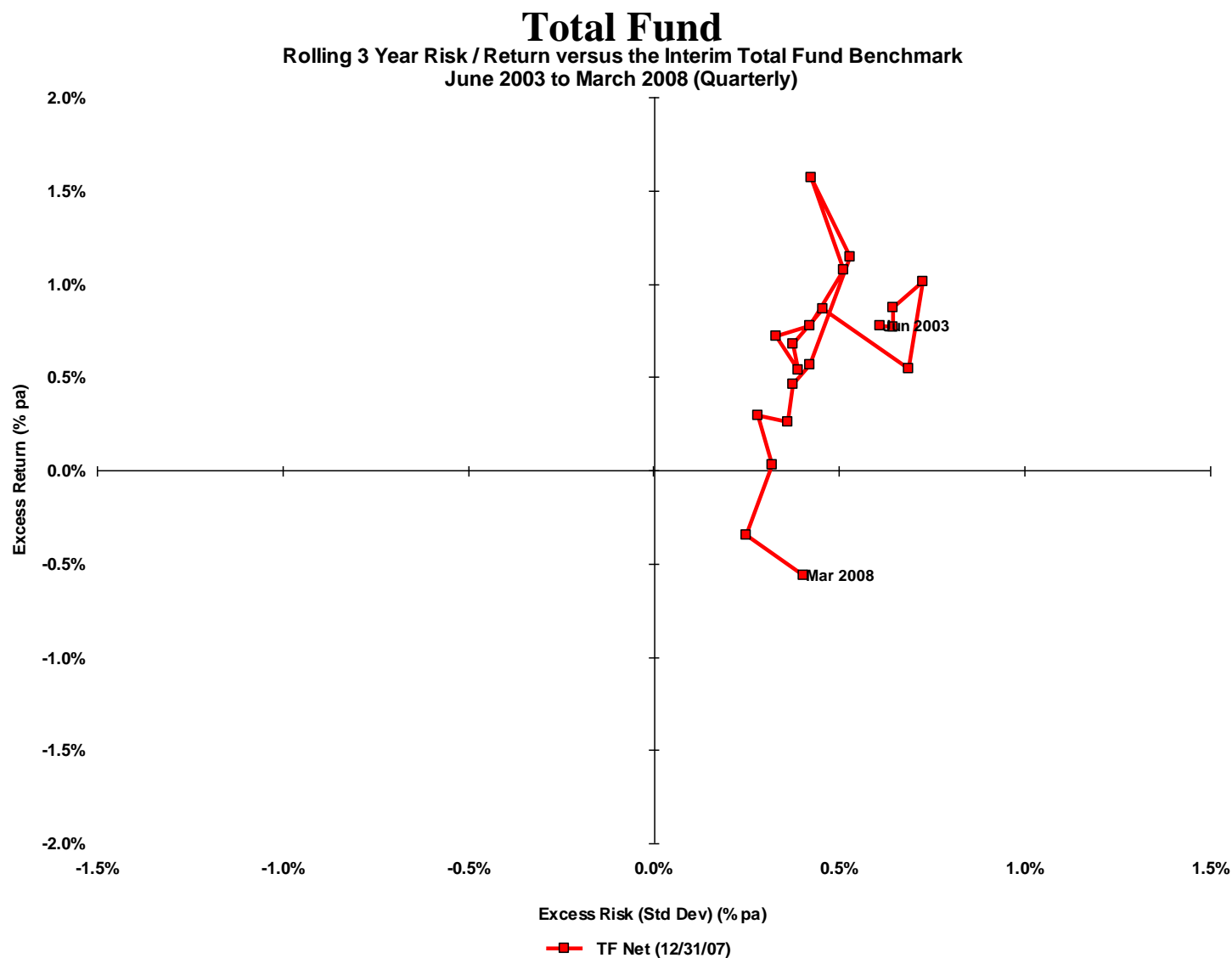
\*The information contain herein is for comparison purposes only and is not a Total Fund performance benchmark. Peer universe comparisons are subject to several limitations, including: peer groups are not comprehensive, several funds are included in multiple peer groups, peer groups are constructed using gross of fees returns, and survivorship bias in that poorly performing funds may no longer continue to report results.

Note: Universes are constructed with gross of fees returns; therefore, the ASRS rank is based on gross of fees returns.

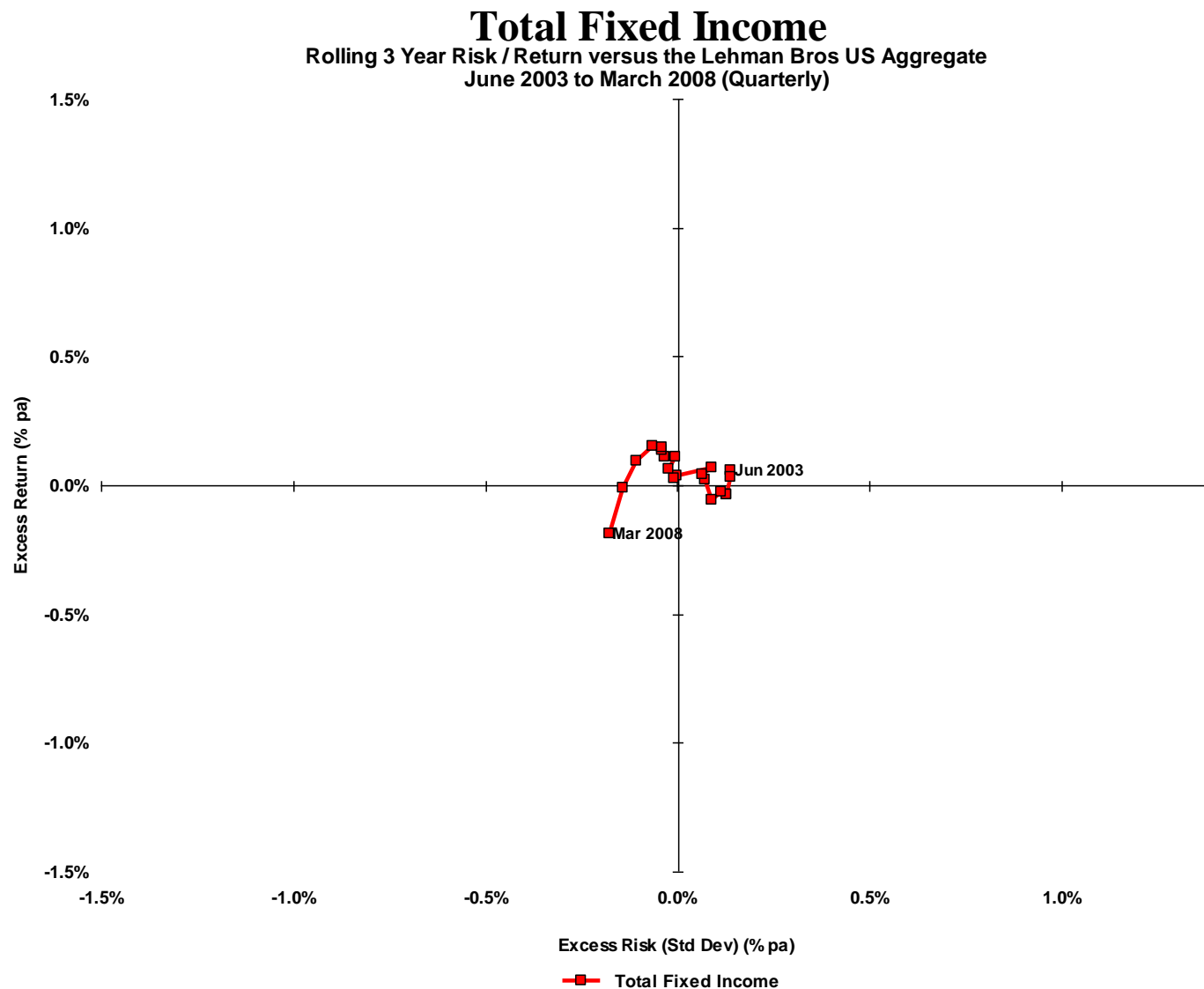
# Total Fund Growth



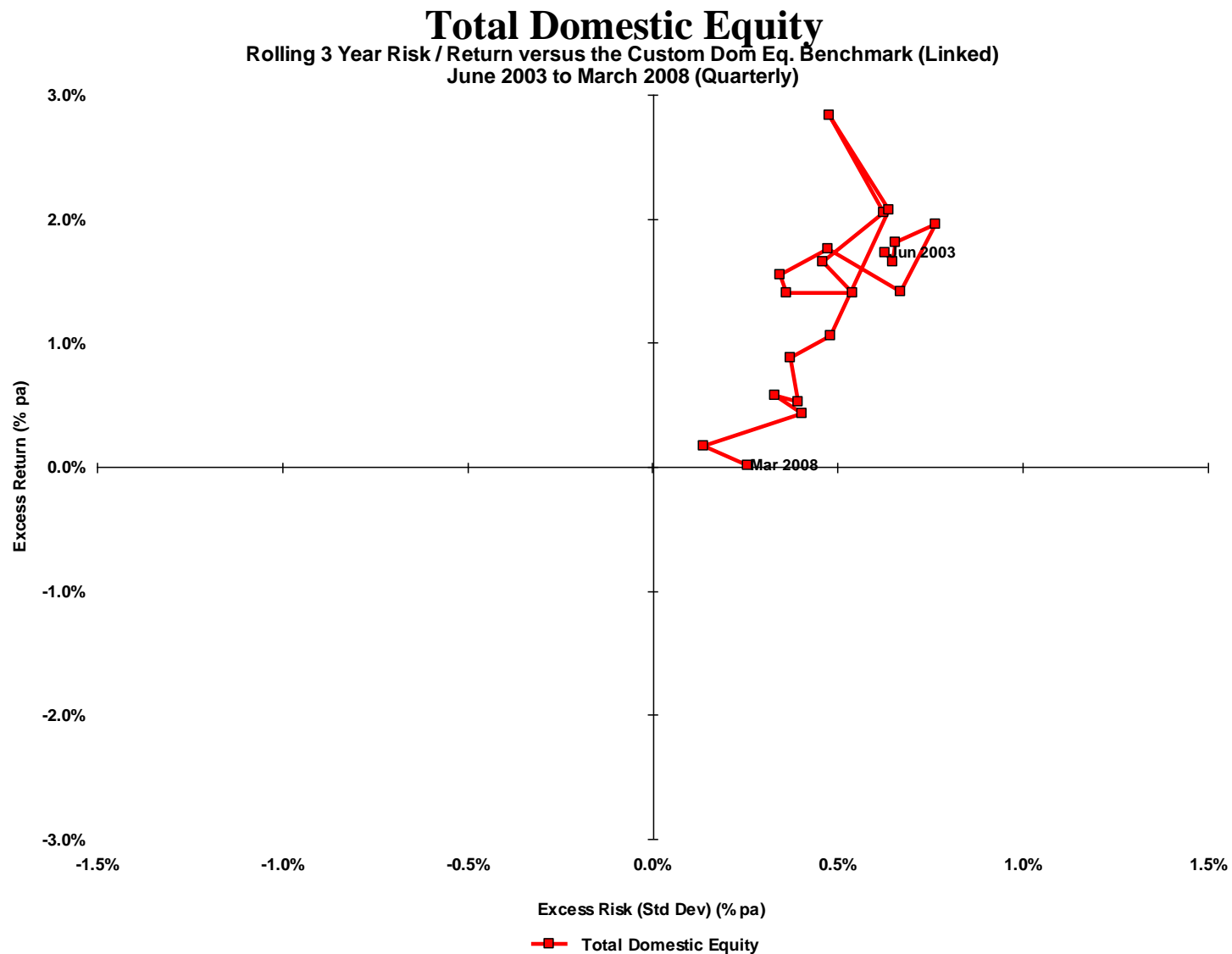
# Risk/Return Analysis



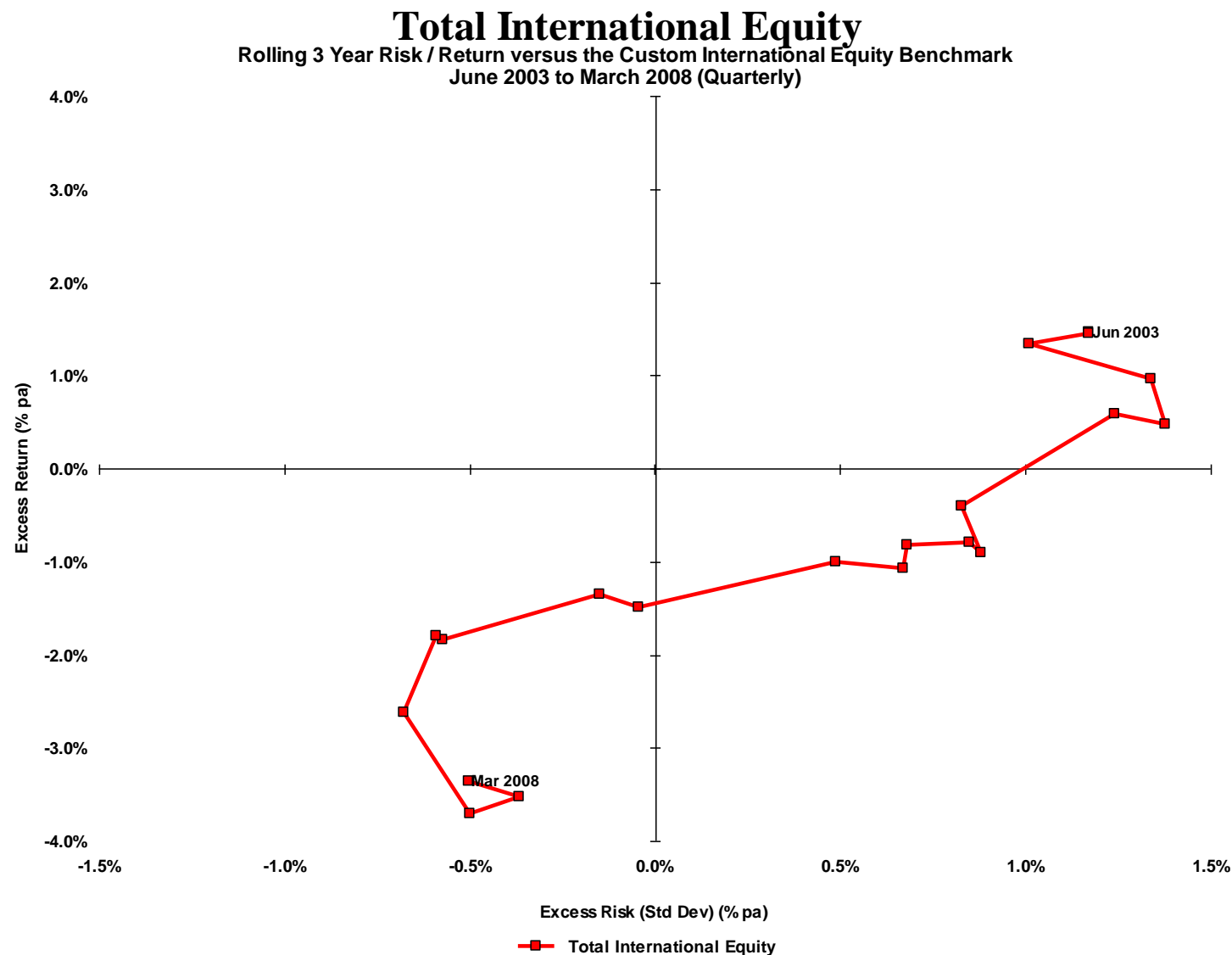
# Risk/Return Analysis



# Risk/Return Analysis



# Risk/Return Analysis



## Performance vs. Benchmarks

### For the 3 Years Ending March 31, 2008

	<u>Return</u>	<u>Assumed ROR</u>	<u>Std. Dev.</u>
Total Fund	7.1%	7.8%	6.9%
Benchmark <sup>(1)</sup>	7.6%		6.5%
Domestic Fixed	5.3%	4.7%	3.1%
LB Aggregate	5.5%		3.2%
Domestic Equity	5.8%	8.5%	9.3%
S&P Custom Bmk <sup>(2)</sup>	5.8%		9.1%
Intl. Equity	12.4%	8.7%	11.2%
MSCI Custom Bmk <sup>(3)</sup>	15.7%		11.7%
Real Estate	N/A	7.3%	N/A

<sup>(1)</sup> Interim Benchmark (current): 38% S&P 500, 7% S&P 400, 7% S&P 600, 27% LB Aggregate, 19% MSCI ACWI ex US, and 2% NPI+100 bps

Note: Interim Benchmark incorporates a proration of 4% real estate and 5% private equity

<sup>(2)</sup> S&P 500 prior to 1/1/07 and 74% S&P 500, 13% S&P 400, 13% S&P 600 thereafter

<sup>(3)</sup> MSCI EAFE/ACWI ex US Benchmark is the MSCI EAFE prior to 10/1/05 and the MSCI ACWI ex US thereafter

## Performance vs. Benchmarks

### For the 5 Years Ending March 31, 2008

	<u>Return</u>	<u>Assumed ROR</u>	<u>Std. Dev.</u>
Total Fund	11.7%	7.7%	8.7%
Benchmark <sup>(1)</sup>	11.5%		8.2%
Domestic Fixed	4.5%	4.7%	3.3%
LB Aggregate	4.6%		3.4%
Domestic Equity	12.3%	8.6%	11.6%
S&P Custom Bmk <sup>(2)</sup>	11.3%		11.1%
Intl. Equity	21.0%	8.8%	14.3%
MSCI Custom Bmk <sup>(3)</sup>	23.1%		14.0%
Real Estate	N/A	-	N/A

<sup>(1)</sup> Interim Benchmark (current): 38% S&P 500, 7% S&P 400, 7% S&P 600, 27% LB Aggregate, 19% MSCI ACWI ex US, and 2% NPI+100 bps

Note: Interim Benchmark incorporates a proration of 4% real estate and 5% private equity

<sup>(2)</sup> S&P 500 prior to 1/1/07 and 74% S&P 500, 13% S&P 400, 13% S&P 600 thereafter

<sup>(3)</sup> MSCI EAFE/ACWI ex US Benchmark is the MSCI EAFE prior to 10/1/05 and the MSCI ACWI ex US thereafter

# MERCER



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN